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The Road Less Traveled: Factors Affecting Community College Transfer Student Admission to a Public Flagship University

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The Road Less Traveled: Factors Affecting Community College Transfer Student Admission to a Public Flagship University

by

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Dedication

To Robert, Marisa and Matthew who shared their love and laughter and served as my inspiration throughout this journey.

Acknowledgments

A lonely car passes by my window and temporarily disrupts the silence of the night beyond the p-p-p of my fingers hitting the computer keyboard. There is an occasional rustling of my sleeping family in the bedrooms down the hall. I fall asleep by my computer and then wake up again before sunrise. I have a clear memory of my young son sleepily trudging in my office with the dawning of the sun and asking if I ever fell asleep. Through this period, my daughter underwent open heart surgery and my young son came into this world. Through it all, my husband, Robert, was supportive and patient. He was keenly aware of my goal to not just finish, but to make a difference with this research. Together, we experienced great triumphs and challenges. Together, we remain.

As with accomplishment of anything important, there was a wonderful group of supporters by my side. I could not have reached my goal without the emotional support of my family and friends. Robert supported our family in countless ways and always found time to give me encouragement when I most needed it. I am especially indebted to my parents, Fabian and Gloria Garcia and my five brothers, my three brother-in-laws, seven sister-in-laws, and my many nieces and nephews who offered supportive words and care for my son and daughter when I needed it most. I'd also like to thank Gilbert Tuhabouyne, my running coach; fellow students Enrique Romo and Kiersten Ferguson; and Dr. Victor Saenz, a respected scholar and friend, for their wisdom and kind words of encouragement. Special thanks to Michael Mohameta in the Division of Statistics and Academic Computing for your amazingly clear explanations of all things quantitative.

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The Road Less Traveled: Factors Affecting Community College Transfer Student Admission to a Public Flagship University

Rose Marie Martinez, Ph.D.

The University of Texas at Austin, 2010

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Co-Supervisor: Pedro Reyes

> *The aims and values of an educational institution are often revealed most vividly by the choices it makes in selecting its students.*
> Bowen & Bok, 1998, p. 15

Although much has been written about the challenges affecting transfer students, a mixed method study on transfer admission, particularly at the institutional level is an intriguing, albeit unexplored endeavor. In Texas, there is an added dimension of interest given the presence and popularity of the Top 10% Law. This study sought to provide a comprehensive portrait of transfer admission at The University of Texas at Austin from the 1990s to 2007. A sequential explanatory design was employed to identify changes in transfer admission policy and practice and to address if there were differences in admission rates among the major transfer pathways to the state's largest flagship institution (Creswell, Plano Clark, Gutmann, & Hanson, 2003).

Two main conclusions emerged from this study. First, transfer admission became more competitive and selective after the passage of the state's Top 10% Law in 1997. Second, qualitative and quantitative findings suggested the implementation of a

conditional transfer guarantee program for highly selective freshman applicants resulted in significantly less opportunity for transfer applicants from community colleges and other transfer routes to be admitted.

Based on these findings, recommendations included reinvesting in a community college transfer student recruitment and scholarship program and significantly reducing the size of the university's conditional transfer guarantee program for admissible freshmen applicants. A final suggestion was to identify and value the community college route in the holistic transfer admission process given the large proportion of first-generation college, low-income students who comprise this population.

To avoid perceptions of sponsored mobility and to promote a social justice rationale, a pre-selection transfer program to prospective freshmen should be revisited given the adverse effects on the community college transfer population. With over 600,000 students enrolled in Texas 2-year colleges, a viable pathway to the state's most prestigious flagship university provides increased opportunities for social mobility to the many competitively admissible first-generation and low-income students populating public 2-year colleges and seeking a baccalaureate degree from UT Austin.

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Chapter One: Introduction

> *The aims and values of an educational institution are often revealed most vividly by the choices it makes in selecting its students.*
>
> Bowen & Bok, 1998, p. 15

For some students, admission to a highly selective 4-year institution is most possible and practical if they begin at a local community college (Hilmer, 1997). Open-enrollment policies at public 2-year colleges have historically afforded access to economically disadvantaged, first-generation, place-bound, and lesser-prepared students aspiring to obtain a baccalaureate degree. For these students, a community college acts as a conduit to a university education that, at first, might have seemed out of reach.

It is estimated over 42% of students in public 2-year institutions take this path to earn a 4-year degree (Peter & Cataldi, 2005, p. 13). Recent studies have shown the majority of community college students transferring to selective universities are from high-income backgrounds and not representative of the dominant socioeconomic class found at public 2-year institutions (Dowd & Cheslock, 2006; Dowd, Cheslock & Melguizo, 2008). It is estimated that among 122 highly selective universities, less than 1,000 low-income transfer students enrolled at these institutions (Dowd & Cheslock, 2006).

Although many scholars have examined typical academic and socioeconomic characteristics among transfer students who enroll and persist at upper-level institutions, scant research exists on a 4-year university's transfer admission process and the factors affecting this narrow entryway (Grubb, 1991; Hilmer, 1997; Melguizo & Dowd, 2006; Velez, 1985).

In selecting a top-ranked flagship institution for this study, The University of Texas at Austin was most appealing given its size and the high demand for freshman and transfer admission. Admission practices and trends associated with the Top 10% Law were of interest given its modification in 2009 by the 81st State Legislature (S.B 175). UT Austin is the fifth largest public university in the United States with a notable history of legal battles related to admission policy (*Hopwood v. Texas*, 1996; *Fisher et al. v. Texas*, *et al.*, 2008; *Sweatt v. Painter*, 1950). It is a selective institution ranked 15th among public universities by *U.S. News and World Report* (2009) and it typically enrolls approximately 2,000 transfer students each fall.

By studying UT Austin's transfer admission policy in comparison to its more recognized and studied freshman admission policy, a picture emerges of how transfer students have fared in gaining access to this top-tiered institution over time (see Horn & Flores, 2003; Long & Tienda, 2008; Tienda & Niu, 2006; Orfield & Miller, 1998; Saenz, 2007 for freshman admission studies). Further, this study examines whether the passage of the Top 10% Law (H.B. 588) and the creation of the Coordinated Admission Program (CAP) have constricted community college student access.

Over time, UT Austin's freshman population has grown more ethnically and geographically diverse, but little is known about the transfer admission process and whether community college transfer students fare better or worse than other transfer applicants (Walker & Lavergne, 2001). Further, a longitudinal analysis of major transfer routes to UT Austin and a qualitative examination of institutional values towards transfer students are also included in this study. This research provides important

quantitative and qualitative findings on the status of transfer admission at the largest flagship institution in Texas. Ultimately, the study seeks to be the first study to address if the state's automatic admission law for high school graduates in the top 10% of their class, and CAP, a conditional guarantee program for admissible freshman applicants who emerged as a consequence of the law, affected community college transfer student access. This research reveals if selected variables such as transfer GPA, feeder route, ethnicity, and gender determine if the path from a community college to a state flagship university is well traversed or a road less traveled.

The subsequent sections of this chapter explain the statement of the problem, purpose of the study, the study's research questions, significance of the study, definition of terms, delimitations, limitations, and assumptions. The chapter concludes with a summary.

Statement of the Problem

Gutmann (1987) underscored how selective institutions are held to a high standard of determining admission for a limited number of individuals with vastly different academic, cultural, and socioeconomic backgrounds. Bowen and Bok (1998) simply stated, "Who is admitted to selective schools depends, of course, on who applies" (p. 18). Elite institutions, by their very nature, are highly desired by students who seek access to and acceptability from a powerful and politically influential network of faculty, administrators, alumni, business leaders, and government officials. Community college students seek admission to 4-year universities, particularly flagship universities, because

of their institutional reputation of academic excellence and their formal commitment to serve the state citizenry (Abowitz, 2005; Ayers & Hurd, 2005; Brint & Karabel, 1989).

Given the implicit social and cultural capital one can gain by association and for social justice reasons, college admissions must be as neutral and fair as possible. Qualifications of college applicants must be "relevant to the legitimate purpose" of the institution (Gutmann, 1987, p. 196). However, eligible applicants should not be disadvantaged if their characteristics do not fit the blueprint of a highly qualified student.

Since the 1980s, many selective colleges and universities have incorporated the principles and practices of strategic enrollment management (Hossler & Bean, 1990). Enrollment management focuses mainly on the recruitment and retention of academically qualified freshman students who are predicted to succeed at the institution or bring prestige-generating inputs such as high GPAs or SAT scores–inputs not typically associated with transfer students (Wilson, 1999).

With growing evidence of prestige- and rank-obsessed 4-year institutions, the social justice rationale for admitting qualified students from low-income backgrounds seems to hinge on how much the university is able and willing to invest or pay in them (St. John, 2003). Gutmann (1987) argued that access to a fair and unbiased transfer admission process is vital because more than 11.5 million students are enrolled in 2-year community colleges, representing half of the total number of undergraduates in the United States. Community colleges welcome people from diverse educational backgrounds, enabling many of them to gain technical or vocational skills while

providing others with the academic foundation necessary to transfer to a 4-year institution and earn a baccalaureate degree. Two-year public institutions traditionally have been able to accommodate those seeking educational advancement, while also providing working class students with an entrée to an institution that is local, affordable, and accessible. In contrast, most highly ranked 4-year universities are residential in nature and are most convenient for single, full-time students with limited responsibilities outside the college (Gutmann, 1987).

In most states, there are unlimited choices for high school graduates to consider when deciding on a college. However, college choice matters and can negatively affect the likelihood of earning a 4-year degree (Pascarella & Terrenzini, 1991). For example, Callen and Atwell (2009) stated, "Three of the nation's largest public university systems—the University of California, California State University, and Arizona State University—are proceeding with plans to cap or cut enrollment amid rapid growth in their states' college-going populations" (p. 7). This economic crisis is not new to California. In 2004, a confluence of forces resulted in neither community colleges nor 4-year institutions being able to accommodate all the eligible students in California and Florida. These states recorded double-digit growth in their community college populations, resulting in a "perfect storm," where a combination of dramatic increases in student demand and reduced state funding forced cuts in college enrollment (Boggs, 2004, p. 8). Couple this unanticipated cap on community college enrollment with extremely low numbers of community college transfer students being courted by the most selective public institutions, and students are faced with a reduction in affordable

routes to a high-quality education (American Association of Community Colleges & American Association of State Colleges and Universities, 2004; Dowd, Cheslock, & Melguizo, 2008; Melguizo & Dowd, 2006).

In Texas, community colleges represent the largest sector of higher education. Of the approximately 600,000 students who enroll annually in Texas 2-year colleges, approximately 75% of all lower division students and 78% of all lower division minority students comprise this diverse population (Texas Association of Community Colleges, 2009). This tremendous growth in the public community college system has resulted in an additional 140,000 students or a 31% increase in enrollment from 2000 to 2007 (Texas Association of Community Colleges, 2009, p. 1). Despite these record figures, state projections indicate the current increase in college enrollment has not kept pace with the overall population growth. The Texas Higher Education Coordinating Board (2000) reported Latino students are the fastest growing ethnic minority in the state and are the least likely to earn a college degree. It is projected that between 2000 and 2040, the labor force with no diploma will grow an astounding 11.3 percentage points (Murdock, 2005). The group with some college education will see percentages slip by 4.8 percentage points, and the population earning a bachelor's degree will drop by 5.3 percentage points (Murdock, 2005). These projections forecast a less educated state citizenry. As shown in Figure 1, fully 30.1% of the population is projected to not receive a high school diploma in 2040, compared to 18.8% in 2000, and only 12.9% are projected to receive a college degree, compared to 18.2% in 2000.

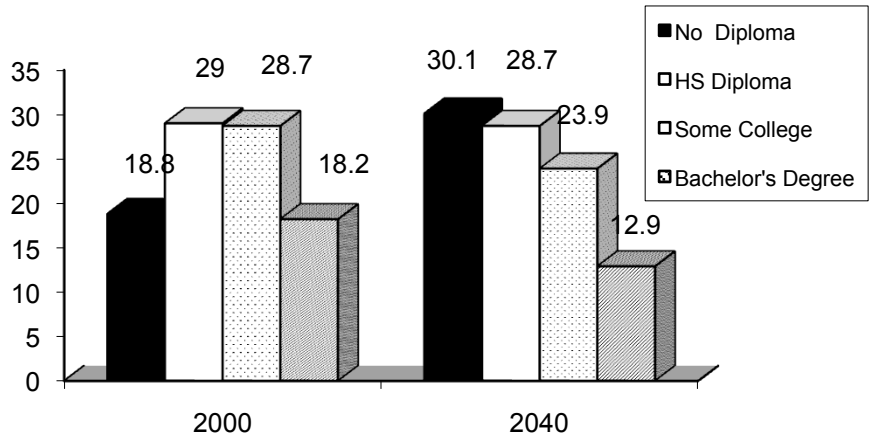

Figure 1. A Comparison of Educational Attainment 2000–2040.

Given this scenario, it is critical that a conduit for community college transfer students be promoted and expanded to increase the number seeking a 4-year degree. It is appropriate for the public flagship universities to recruit and garner a proportional share of these students given the superior educational benefits derived from these institutions. These state-supported universities are home to many of the most highly ranked programs and well-respected faculty members in the nation. Transfer students deserve their attention, particularly when research suggests that students from low-wealth backgrounds typically "improve upon their chances of attending a higher quality university if they first attend a community college," than if they directly enroll in a 4-year college as a freshman (Hilmer, 1997, p. 66).

Without more students seeking postsecondary education, the state stands to lose billions of dollars and high-skill jobs to states with a more robust and diverse college-educated workforce (Texas Higher Education Coordinating Board, 2000). At stake is

sustaining the democratic ideal of access to highly ranked colleges by all eligible students, regardless of their postsecondary background.

In an effort to gauge success in maintaining access to top-tier institutions, a recent series of reports on transfer student admission to elite colleges authored by scholars from the University of Southern California and the University of Massachusetts found "transfer access from community college to highly selective colleges and universities is practically negligible" (Melguizo & Dowd, 2006, p. 3). Community college campuses historically have served as a proving ground for transfer students making their way to more prestigious postsecondary institutions. Today, more seems to be known about transfer student successes at 4-year institutions than is known about the precursor to this event—transfer student admission (Handel, 2007; Lee & Frank, 1990; Long & Kurlaender, 2008).

Public 4-year institutions, particularly flagship universities, have historically offered transfer admission to students who meet narrow academic criteria (i.e., grade point average [GPA], rigor of coursework, academic progression). Ironically, the factors affecting growth and the competitive nature of transfer admission have remained relatively unstudied areas. This mixed-method design incorporates both deductive and inductive logic to determine the relationship between transfer admission to a flagship university and certain applicant characteristics (Teddlie & Tashakkori, 2003). It uses a sequential mixed methods approach to identify factors affecting community college transfer admission to a flagship university (Creswell, 2009). The first phase of the study is a review of trend data from 1998-2007 to track the number and percentage of 2-year

and 4-year students admitted to UT Austin. Next, an archival review of admission policies and practices resulted in a freshman and transfer admission matrix and descriptive analysis of decisions driving change during this 10+ year period. This qualitative research was followed by semi-structured interviews designed to explore changes in transfer admission and institutional values associated with transfer students. In the final portion of the study, a series of sequential logistic regressions were crafted to study transfer route and student background characteristics and their ability to predict transfer admission. The logistic regression models included three non-consecutive years of data: 1998, 2002, and 2007. These years represent the earliest year available and prior to the emergence of the Coordinated Admission Program (CAP), the first year CAP students transferred to UT Austin, and the latest year of data available to the researcher. The study followed a quantitative, qualitative, quantitative sequence best categorized as sequential explanatory research (see chapter three, p. 67).

Purpose of the Study

The central purpose of this mixed method study was to identify if transfer access to The University of Texas at Austin was affected by feeder pattern or student background characteristics. A secondary goal was to provide an in-depth qualitative study of the processes and practices as explained by admission officers to either confirm or contradict the quantitative findings. In essence, the qualitative research was conducted to serve as the glue to piece together the quantitative results and provide voice to the interpretations of the findings. Research on institutional policies and practices affecting community college transfer student access to a flagship institution were derived from

admission catalogs, institutional reports, newspaper articles, and expert interviews. The university provided several years of extant admission data and in an effort to be selective and adhere to time and financial constraints the years 1998, 2002, and 2007 were selected to reflect key points during roughly a 10-year period (1998-2008). The 10-year period of aggregate admission data, 1998–2007, represents a significant time in freshman and transfer admission policy at UT Austin. During this time, the institution's race-based admission practices were banned and then reinstated as race-sensitive practices. An admission moratorium initiated in the spring semester of 2002 was temporarily enacted to control undergraduate enrollment and maintain the quality of instruction at the institution in light of reduced state support.

This study examined whether these developments influenced selectivity and size of the transfer population. In addition, as a consequence of the elimination of race-based admission practices following the *Hopwood v. Texas* (1996) ruling by the 5th Circuit Court of Appeals, the Texas House Bill 588 was included in this research given its major impact on freshman admission. Passed in 1997, Texas House Bill 588 became known as the Top 10% Law (TTP). The TTP Law guaranteed Texas high school graduates ranked in the top 10% of their class entrance to a state university of their choice.

During the era of the Top 10% Law, freshman applications increased by over 10,440 (62%) from Fall 1998 to Fall 2007 at The University of Texas at Austin (Office of Information Management and Analysis, 2008). Considered an offspring of the automatic admission law, the Coordinated Admission Program (CAP) was implemented in 2001. It serves as a conditional admission alternative where students vie for

guaranteed admission as transfer students upon successful completion of the program requirements. According to the Office of Admissions (2010), CAP was created to better manage freshman enrollment and still meet the obligation of the state to not deny admission to academically qualified Texas residents not in the top 10% of their graduating class. These changes and delineations in admission requirements and paths exemplified the complexity of selecting qualified undergraduates under the guise of a fair and equitable process.

This study contributes to the limited literature on transfer admission programs by identifying variables affecting transfer access to the state's largest flagship university. It is a unique and important study given the inclusion of CAP as an independent variable in the logistic regression models. This new transfer route was an institutional attempt to address student demand from non-Top 10% admissible students and is seen as a byproduct of a law that has been credited with maintaining a diverse freshman population. Conversely, this study examines how new opportunities for transfer admission to selected admissible freshman students may be reducing opportunity students of community college and other postsecondary institutions to gain admission to The University of Texas at Austin. This may be the first mixed method study to examine the effects of the Top 10% Law on transfer admission.

Research Questions

This study employed mixed methods to examine transfer access and admission to The University of Texas at Austin. It addressed the following research questions:

1. How did transfer admission criteria change from the mid-1990s to 2007?

2. Is there a difference in admission between a community college transfer applicant and other transfer applicants being admitted?

3. What specific variables affected transfer admission?

These questions are critical to exploring policy and population changes in transfer admission. By gathering evidence on the differences in transfer applicant admission rates among certain groups, a new perspective of this little studied area is revealed. What emerges from the research shows what groups are best served by transfer policies, practices, and programs at UT Austin. If the largest growth in higher education is occurring at the community college level, does the community college population comprise the largest transfer population at UT Austin? If not, what group is gaining the most access to the flagship university and do they represent a group most in need of access to higher education? This study reveals how policy, practice, and programs either promote or hinder the inclusion of admissible low-income, first-generation community college students to the UT flagship university and what implications arise from existing state and institutional policy decisions.

Significance of Study

This research adds to the scholarly work on transfer enrollment management issues, including the impact of increased student competition and selectivity within transfer admission at an elite flagship institution. This longitudinal study represents a unique and important contribution to research, policy and practice given that there is little research on the significance of transfer route to the largest and best-recognized public university in Texas. This research also examines differences in admission rates

among ethnic groups and genders at two distinct points in time that reflect a year prior to and after the passage of the Top 10% Law. The law guarantees a Texas resident admission to a state college or university if he or she ranks in the top 10% of their graduating high school class.

Given the significant enrollment constraints at UT's flagship university and a burgeoning community college population in Texas, the study addressed whether transfer admission to The University of Texas at Austin still remains a viable option. The research predicts the odds ratio of a community college student gaining admission in comparison to applicants using three other routes, and thus illuminates whether social justice theory regarding transfer accessibility to a flagship institution is an ideology or common practice. Further, this study attempts to formulate policies to promote equitable access among groups comprising the transfer applicant population. Finally, it contributes new knowledge to undergraduate admission research by addressing if there is a connection between a state's automatic admissions law and community college student access to The University of Texas at Austin.

Definition of Terms

Admission variable. A variable affecting college admission of an undergraduate or graduate applicant.

Binary logistic regression model. A regression model that is used to predict an outcome of a dependent dichotomous variable after accounting for independent variables and covariate control variables.

Community college. A public 2-year college that confers the associate degree in arts and science. For the purpose of this study, it is used interchangeably with the term public 2-year college transfer student. In Chapter four, public 2-year college is specifically used because 2-year technical schools are included in the trend data presented.

Community college transfer student. A student with immediate past prior enrollment in a public 2-year college in Texas. For the purpose of this study, this term is used interchangeably with the term public 2-year college.

Coordinated Admission Program (CAP) transfer student. A student offered the CAP as a freshman applicant to The University of Texas at Austin, who accepts the offer, participates in CAP, and is considered for transfer admission to UT Austin. A student who successfully fulfills the terms of the CAP contract gains guaranteed admission to the university as a transfer student to the School of Undergraduate Studies, the College of Liberal Arts or the College of Natural Sciences. A CAP student who does not fulfill the contract or applies outside the guaranteed choices competes for admission with the regular transfer applicant pool.

Elite institution. A selective institution as determined by *Barron's Profiles of American Colleges* (2006) that is defined as being competitive or highly competitive in the admission process on the basis of application selectivity, average standardized test scores, and other institutional factors.

Freshman/men. For the purpose of this study, the term freshman (plural freshmen) was used to refer to a first-time student engaged in the college admission

process and having less than 30 hours of college credit. Although this term may be considered as sexist, it is so heavily used by colleges and universities and in scholarly research. Using a gender-neutral term such as first-year student, inhibits clear distinctions between the two major groups examined in this study: first-time, first-year college students and first-time transfer students to UT Austin.

Native university student or native 4-year student. A student who enrolls at a 4-year university as a first-time freshman.

Non-admission factor. A variable not considered as a criteria for transfer applicant admission, such as year.

Sending institution. A sending institution is the last postsecondary institution where the applicant was enrolled before seeking transfer admission to the receiving or accepting institution.

Top 10% Law (TTP). The law was passed by the 75th State Legislature (HB 588) in 1997. Texas residents graduating in the top 10% of an accredited public or private high school in the state or from a high school operated by the United Sates Department of Defense qualify for automatic admission to the public postsecondary institution of their choice. To qualify for admission, the student must submit an application by the institution's stated deadline.

Transfer access. In the context of this study, the social justice goal of an undergraduate student who aspires to and is admissible to a 4-year university.

Transfer admission rate. The percentage of transfer applicants who are admitted to the university. A comparison of rates illustrates how selectivity has changed.

Transfer enrollment rate. The percentage of students who enrolled (counted after the 12th class day) at the university out of the total number of students who were admitted for the same academic year. A comparison of rates illustrates changes in enrollment, also termed *yield rates*.

Transfer student. For this study, an applicant who transfers from a public or private college or university to another postsecondary institution conferring a 2-year or higher degree.

Delimitations

This study examined factors affecting transfer access among students from public 2-year colleges in Texas to The University of Texas at Austin. The general years studied were 1998–2007. The results were compared to the admission rate of transfer students from other public 4-year institutions in the state (termed vertical transfers) to this same institution during a 10-year period. This study does not examine transfer access among international students or students applying for transfer from academic institutions outside the state and does not examine reverse transfer trends. The research does not take into account articulation agreements among 2-year and 4-year institutions. The scope and depth of the research were determined by the available student-level data provided by the university and the cost associated with retrieving this data.

Limitations and Assumptions

This study has several limitations. This multi-method study includes qualitative analysis of documents explaining transfer admission criteria as well as interviews of key admission experts at the institution. Quantitative data included 10-year trend data on

transfer enrollment and a series of sequential logistic regressions crafted to determine the admission rates of transfer admission for applicants with specific characteristics. One limitation of the quantitative analysis is the inability to include all the variables affecting a student's probability for transfer admission. Of the extant data provided for this study, parent education and family income represent two variables listed in the database, but not included in this study because the majority of the transfer student files obtained were missing data for both variables.

In the quantitative analysis, the study includes extant data of transfer student applicants from one public 4-year institution and necessitates a caution to the reader not to generalize the study's finding to other institutions with similar characteristics. The dataset does not fully represent the population of transfer students applying to the institution of interest, but only student applicants from in-state institutions of higher education with significant numbers of applications. Under the rules of the Family Education Rights and Privacy Act (1974), there were limitations on which records could be shared for this study. Records that could compromise a student's identity due to an unusually low number of records ($n < 5$) with certain identifiable characteristics were excluded. Costs were also taken into consideration when weighing which years and variables to include in the study. Overall, The University of Texas at Austin was selected because of its historical significance in the area of admission policies and judicial cases on racial access and equity and the noted scholarly interest in studying this institution (Horn & Flores, 2003; Long & Tienda, 2008; Orfield & Miller, 1998; Saenz, 2007).

A major assumption of this study is that the transfer admission function will continue at the university as a route to earning a baccalaureate degree. Other assumptions are that factors affecting transfer admission rates will remain unchanged and the demand for transfer admission will continue to grow at UT Austin. The Top 10% Law, or a modification of the law, will continue as an admission option in the future. Data received for this study are assumed to be reliable and the most complete sample available. Finally, the assumption of using a mixed method design was that it would provide the least amount of bias given the use of both quantitative and qualitative methods.

Summary

Community colleges have historically fulfilled the academic aspirations of many students seeking an accessible and economical route to a baccalaureate degree. Accepting students and educating them without judging or sorting them on the basis of their high school GPA, high school rank, SES status, or standardized test score is quite a remarkable trait of most public 2-year institutions. This democratic process has been the cornerstone of the community college mantra: to educate all who walk through their doors. How transfer students fare in gaining admission to The University of Texas at Austin given their differences in GPA, gender, ethnicity, and feeder pattern routes over time is relatively unknown and will be examined in this study.

Organization of the Remainder of the Study

This study will be presented in seven chapters, with a reference list at the end. Chapter two consists of a comprehensive literature review of past studies on transfer student issues. Major themes are: (a) dampened aspirations and life chances of transfer students, (b) different outcomes of transfer students, (c) the important and impeding nature of institutional policies and practices on the transfer function, (d) factors affecting transfer access and admission, and (e) meta-analysis and mega-analysis studies. Definitions of social, economic, cultural and economic capital and the types of admission practices observed at UT Austin are also included to provide context to the study.

The literature review also includes a historical review of the roles community colleges, 4-year institutions, and flagship institutions have played in the transfer admission process. This section concludes with recent studies on transfer student access to elite institutions and a discussion on the theoretical framework employed to guide the current study.

Chapter three focuses on the mixed methods used in the study. It begins with an explanation of mixed method design and the rationale for its use in the study. It reviews the purpose of the study and the research questions. It explains the sample, data collection, and data analysis used in addressing each question. In the final section of this chapter, techniques for integrating and explaining the quantitative and qualitative results are explained.

Chapter four contains findings from the exploratory study that served as the impetus for the current mixed method study. With its descriptive statistics and analysis of the university's transfer population from 1997-2007 and CAP from 2001-2007, it represents phase one of the explanatory research design.

Chapter five explains findings of the qualitative research and addresses research question 1. This chapter contains a lengthy document analysis on admission policy, practice and outcomes and an analysis of interviews conducted with several university officials who were given pseudonyms to protect their identities.

Chapter six presents the quantitative findings used to address research questions 2 and 3. Descriptive statistics and a series of logistic regression models are included in tables. An analysis of the output used to address if transfer route, transfer year, ethnicity, and gender affect transfer admission is provided.

Chapter seven provides a summary of the literature, methods and theory and findings. Implications to policy, practice and research are provided with the last section devoted to conclusions.

Chapter Two: Literature Review

Introduction

The purpose of this review of literature is to survey the research on holistic admission, the varied definitions of capital, mobility and access related to postsecondary education, and variables associated with transfer admission. The history of transfer admission and the respective roles of the 2-year and 4-year institutions of higher education are also documented. After examining the roles of higher education in relation to the transfer process, the chapter continues with a comprehensive view of studies on the demographic, sociological, and institutional factors affecting college transfer admission and participation. Turner's (1960) sponsored mobility and contest mobility are the theoretical frameworks used in the study to address if there is a presence of either, or both norms in the implementation of university policy, practice, and programs.

Types of Capital

When discussing capital, it is interesting to speculate whether a quality education serves as the means to greater capital or vice versa. Bourdieu (1986) wrote several seminal pieces on types of capital and how individuals navigate through society by using it in its various forms. Forms of capital discussed were social, economic, cultural, and institutionalized capital.

Social capital refers to a network of social relationships a person shares that can result in a tangible or intangible value or advantage (Bourdieu, 1986). According to Bourdieu, economic capital is defined by its ability to quickly become money. Cultural

capital is defined in multiple ways and in three forms: (a) what an individual learns, such as class and religion; (b) what an individual owns; and (c) what institutional recognition is provided, such as an academic degree and the prestige of an alma mater. Cultural capital varies in value of return according to time and place of the holder (Bourdieu, 1986).

Finally, institutionalized capital is a result of an individual's postsecondary experience (Bourdieu, 1986). This form of cultural capital is defined by the type and quality of education received and the resulting graduation, where a degree or certification is earned. Moreover, the capital is more valued if the degree is received from a highly respected institution of postsecondary education. In these select cases, institutionalized capital is secured to an individual who "graduat[es] from an institution with special acclaim for a specific academic program" (Settle, 2005, pp. 21-22).

With the accumulation of capital, in its many forms, comes the added influence of social mobility and its effect on an individual's quality of life. By the time young men and women enter adult society, they have received an education that is highly suspect in terms of its equality and academic outcomes. According to Bourdieu and Passeron (1977), the existing pattern of social mobility has such an influence on formal education that it cannot help but affect the ideology and practices of educational agents and therefore creates a disadvantage for many low-income and ethnic minority students seeking admission to top-ranked, public, 4-year institutions.

Types of Mobility and Access

Two types of mobility described in chapter one are relevant to this study. Contest mobility is based upon whether an individual possesses the determination and ability to rise above others in a competitive environment and attain higher social mobility (Abowitz, 2005; Turner, 1960). It is commonly practiced in the U.S. system, commonly referred to as "meritocracy." In contrast, sponsored mobility is defined as higher social status obtained not as a result of an individual's doing, but with deliberate attempts of others to promote the individual (Turner, 1960). When defining access, institutions of higher education espouse different concepts that align with their respective needs.

Rendón (1998) found two main concepts of access defined by institutions of higher education. She found that institutional values and guiding principles associated with the admissions process were built on philosophically different interpretations of access. One definition is based on merit, whereas the opposing definition is based on social justice and equal opportunity, commonly implemented through affirmative action policies and practices. This section provides an examination of the two major definitions and their relationship to higher education.

Access based on meritocracy. This view of access is built on the premise that working hard regardless of one's background and in tandem with the ideals espoused by Turner's (1960) contest mobility will result in the "American Dream," where the highest degrees of social, cultural, and economic rewards are possible (Rendón, 1998). One example of measuring merit includes a college admission process that employs an academic index score to select applicants. Access based on an academic index is

typically delineated by a stair-step algorithm that determines student eligibility for college admission (Rendón, 1998). This index is constructed to reflect a range of numeric scores comprising class rank, completion of required high school curriculum, rigor of courses, and SAT or ACT test score.

Access based on social justice and equal opportunity. Advocates for social justice and equal opportunity argue non-merit based measures should be included in the evaluation of college admission applications. They argue historic and persistent inequities in academic preparation and limited cultural and social capital place low-income and ethnic minority students at a disadvantage in a heavily weighted merit-based admission process. Class-conscious criteria like employment and experiences of overcoming adversity are legitimate demonstrations of leadership and motivation that can be included to diversify a freshman class (Kirst, 1999).

Admission Models at UT Austin

Holistic admission. For a growing number of selective colleges, undergraduate admission is decided on the basis of considering no less than 12 separate academic and personal achievement factors (University of California at Berkeley, n.d.; University of Michigan, 2007; The University of Texas at Austin, n.d.), termed *holistic* or *comprehensive review*. In a holistic review of first-year and transfer applicants, "a broad variety of academic and personal qualifications" are considered for admission (Lomibao, Barreto & Pachon, 2004, p. 3). However, there is debate on whether a holistic review process is the fairest practice for low-income minority applicants and applicants from rural settings (Manastersky, 2007). Scant research exists on whether holistic evaluators

are more or less subjective in their review of an application than in past times when race-conscious admission practices included quantifying race and ethnicity (Bowen & Bok, 1998). Holistic review is less transparent but does consider many factors in the admission rubric. What is clear is that academic requirements for admission such as standardized test scores and access to college-preparatory curriculum are directly correlated to wealth and play a distinct role in both holistic and traditional merit-based admission practices (Massey, Charles, Lundy & Fischer, 2003; Sewell, 1971).

At UT Austin, both an academic measure and a personal achievement measure are considered to determine freshman admission for students not guaranteed admission under the Top 10% Law. As described before, the academic index is based most heavily on a standardized test score (e.g., SAT or ACT score) and GPA. The second measure is based on a personal achievement index. Factors taken into consideration for the personal achievement index include an applicant's scores on required admission essays, extracurricular activities, awards and honors, work experience, letters of recommendation, and community service. In addition, special characteristics such as SES of family, language spoken at home, single-parent home, and race or ethnicity are considered (University of Texas Office of Admissions, 2006). The range of achievement index and personal achievement index scores create the matrix that determines admission. A line demarcating scores diagonally across the matrix in a stair-step fashion determines if the applicant is a clear admit, a candidate for review, or a clear denial.

Access based on state plans. Another type of access to UT Austin is based on the passage of a state law guaranteeing a student graduating in the top 10% of his or her high school senior class automatic admission to a public institution of higher education. Texas, California and Florida have percentage plans that guarantee admission to state colleges and universities to top-ranked students in their respective states. Scholars have argued these plans have done little to affect ethnic and racial diversity (Horn & Flores, 2003; Orfield & Miller, 1998), but more recent studies have cited increases in geographic and SES diversity among students at UT Austin (Saenz, 2007). These percentage plans came about after race-based admission practices were banned in California and deemed unconstitutional in Texas by the U.S. Fifth Circuit Court of Appeals decision in *Hopwood v. Texas* (1996). *Fisher v. Texas* (2008) was the most recent court case filed by two University of Texas applicants denied admission and challenging the legality of the university's continuing practice of race conscious admission practices in the review of non-Top 10% college applicants in light of the perceived success of the Top 10% Law. Federal Judge Sam Sparks, in the U.S District Court of the western district of Texas, ruled UT Austin did not violate the applicants' constitutional rights and could continue the use of race-conscious admission practices in its review of non-Top 10% applicants.

Emergence of the Transfer Function

In the 20th century, opportunities for postsecondary education grew exponentially with the emergence of junior colleges in America. The founders of these

colleges varied from religious groups to populist-leaning individuals to independent investors (Brint & Karabel, 1989). This new democratic system of higher education attracted and welcomed people from varied social and economic classes. In contrast, private colleges kept their focus on middle and upper social classes, with many of these independent colleges operating as same-sex institutions. Typically, a junior college catering to males offered preparatory courses designed to prime less academically minded students of the bourgeoisie class for entrance to a 4-year institution. In contrast, private women's colleges commonly taught etiquette and ethics to strengthen social skills and morals (Brint & Karabel, 1989). As the need for a larger college educated workforce grew and the social justice issues of the 1960s grew in popularity and government support, the transfer route began servicing diverse populations beyond the male bourgeoisie class of the early 20th century (Brint & Karabel, 1989).

Role of the 2-Year College

When Joliet Junior College opened its doors in Illinois in 1901, it heralded the beginning of a new era in postsecondary education (Brint & Karabel, 1989). For many people, the rise of the junior college meant education had become accessible, affordable, and local. These inclusive institutions welcomed all who desired to learn, regardless of wealth, heritage, or previous academic experience.

After Joliet, California Fresno City College subsequently opened in 1910 and paved the way for the state to amass its 111 public 2-year colleges (American Association of Community Colleges, n.d. a.). For the next 20 years, Missouri,

Minnesota, Kansas, Oklahoma, Arizona, and Iowa broke ground on 2-year colleges (Swift, 1976).

The original roles of community colleges were to provide terminal 2-year degrees and vocational training, prepare academically able students to transfer to 4-year institutions, provide remedial education or basic skills to students who received a poor public education, and offer nonacademic recreational and community programs (Brint & Karabel, 1989).

Some prominent and unlikely university administrators hailed community colleges in the early years. President William Rainey Harper of the University of Chicago viewed junior colleges as a means to divert the masses into area high schools offering lower division college courses. Harper rallied for an associate's degree and, although some questioned his personal intentions, "granted Joliet Community College students advanced standing at the University of Chicago" (Brint & Karabel, 1989, p. 25). To the west, other key community college proponents emerged in California. Alexis Lange, dean of the School of Education at the University of California, Berkeley, and David Starr Jordan, president of Stanford University, were driven to support community colleges in their quest to insulate their institutions from providing more instruction to the growing masses. Instead, they sought to have their universities gain prestige by engaging in "research and scholarship" (Brint & Karabel, 1989, p. 26).

Today, 996 public 2-year colleges educate 11.6 million students. This undergraduate population includes 55% of all Hispanic undergraduates, 47% of all African American undergraduates, and 47% of all Asian American undergraduates,

representing a truly diverse population (American Association of Community Colleges, n.d. a).

The significance of a 2-year community college cannot be underestimated. It is a critical steppingstone to more prestigious institutions among less affluent groups (Brint & Karabel, 1989; Cheslock, 2003; Dowd et al., 2006). Although the pathway from a community college to a 4-year university is narrow, its importance remains central to equalizing opportunity for historically underrepresented groups and enabling them to move into higher social and economic classes.

Role of the 4-Year University

Providing the opportunity for community college students to transfer to a 4-year university has been commonplace at some institutions and a rarity at others. Before the 1970s, a majority of community college students transferred to 4-year institutions. Since the 1980s, the academic focus has waned and corporate-backed professional development programs and for-profit institutions have emerged to gain a large market of older students interested in career advancement, improving current skills, or learning a new skill set (Ballantine, 1997).

During this time, 4-year colleges have grown more selective and self-serving (Winston, 1999). Leaders of such colleges have become much more interested in touting prestige-laden characteristics of their freshman class and improvement in their retention and graduation rates. A growing emphasis on high test scores, class ranking, and rigor of a student's high school coursework has resulted in a more publicly marketed freshman class at some academically competitive institutions. At these institutions, the underlying

motivation for a student to possess cultural capital and attractive external merit-based characteristics are to encourage prestige maximization (Winston, 1999). The emphasis on institutional prestige maximizing behavior can positively influence an institution's rankings in popular publications such as *U.S. News and World Report* ("Best Colleges," 2009) and its ability to generate revenue from perspective donors also interested in maximizing their philanthropic dollars. Today, there is renewed interest in 4-year colleges, particularly top-ranked institutions, to better attract and retain community college students, given recent reports indicating the transfer pipeline is shrinking (American Association of Community Colleges & American Association of State Colleges and Universities, 2004; Dowd & Melguizo, 2008; Dowd et al., 2006).

Background on Undergraduate Admissions

How does a democratic university admissions process operate? The answers vary and often represent polarized views of higher education administrators, state and national politicians, judicial experts, public policy analysts, economists, and sociologists. The final word when legal questions arise is the U.S. judicial system. In the precedent-setting cases, *Gratz et al. v. Bollinger* (2003), *Grutter v. Bollinger* (2003) and *Hopwood v. Texas* (1996), controversial admission practices involving race and ethnicity were considered. With the exception of the *Grutter* case, judicial outcomes prompted the creation of narrowly tailored, race-sensitive holistic admission policies and practices. With the recent Supreme Court rulings on desegregation practices in K–12 public schools, *Parents Involved in Community Schools v. Seattle School District No. 1* (2007) and *Meredith v. Jefferson County Board of Education* (2007), the Court's 4-1-4

opinion found these school districts' race-based student assignment policies to be unconstitutional.

These latest rulings have left leaders of many institutions of higher education nervous to venture beyond race-neutral admission policies and programs and risk increased scrutiny and possible litigation by critical groups. In response to reservations among certain colleges to apply race conscious policies, Coleman and Palmer (2006) contend, "the tendency to attempt to remain in the shadows with respect to the admissions selection process, while understandable in a climate of litigation threats, ultimately misses the mark" and may do little to serve the next larger wave of underrepresented minority and low-income students seeking higher education (p. 56).

Transfer admission represents the one critical route for non-native (transfer) 4-year students seeking entry to a top-ranked institution. Race-neutral practices and holistic admission reviews (i.e., judging an applicant's portfolio as a whole) are historically unremarkable in their ability to diversify institutions but are part of the admission landscape at many prestigious flagship institutions. After the judicial rulings on race in admissions, some admissions offices of selective colleges typically operate under the mantra of "don't ask, do tell." In this setting, admission officers attempt to craft essay questions that address cross-cultural experiences. These written reflections serve as a proxy for certain colleges to gauge adversity and cultural background without quantifying these criteria and defining them as race-based practices (Orfield & Miller, 1998). These current practices are attempts to keep campuses diverse and reflective of the state or regional population, at least in terms of the freshman application process.

How this selection process plays out through transfer admission practices is relatively unknown.

Factors Affecting Community College Transfer and Admission Selection

Sociological studies. The research related to students transferring from 2- to 4-year colleges dates back to the 1960s. Clark's (1960) seminal and controversial study described 2-year colleges as places where students are "cooled out" and detoured from pursuing a bachelor's degree (p. 569). He argued, for the sake of expediency of obtaining a degree or certificate or to ease the demands of transferrable curriculum, students initially planning to transfer were persuaded to enroll in vocational, technical, or business tracks that relegated them to lower social status positions. Through this subtle tracking process, student aspirations were quietly dismantled. Clark reasoned that such subliminal conditioning of certain groups resulted in a society content to preach that education is the great equalizer when, in reality, there are discrepancies in educational attainment among groups despite scholarly evidence of their similar academic abilities.

Sewell (1971) similarly contended, "Life chances are not equal until opportunities for advanced education are equal" (p. 794). The nonacademic factors influencing college access and enrollment, particularly SES, race, and ethnic origin, stifle upward mobility of underrepresented groups and hamper their participation in leadership positions. Based on his landmark longitudinal study, Sewell concluded,

> What [is] impressive is not so much the extent to which socioeconomic status governs the life chances of any particular individual, but rather the extent to which it reduces the aggregate or average educational achievement of those from the lower strata. (p. 798)

Swift (1976) wrote that the purpose of higher education was to "perpetuate things as they are . . . Education tends to support the status quo" (p. 142). For example, the idea of transferring from a community college to a 4-year college is a premise that historically has been promoted by certain segments of the higher education community. However, the low transfer rates between 2-year colleges and 4-year universities among students seeking a baccalaureate degree have remained largely unchanged, illustrating Swift's contention of perpetuating the status quo.

Promising findings in the late 1970s emerged and showed less disparity between students with low and high SES attending college than in past years (Peng, Bailey, & Ekland, 1977). Based on data from the National Longitudinal Study, Peng et al., (1977) found African American students were more likely to enroll in college than Caucasian students. However, the types of institution African American students chose were less selective institutions, whereas Caucasians were overrepresented in the most selective colleges. In spite of this finding, Peng et al. found "3.6 percent of Blacks in the lowest ability quartile attended a highly selective college in comparison to .03 percent of whites" (p. 5). Peng et al. did not attempt to explain this phenomenon, but did state it reflected positively on national and institutional affirmative action programs. In contrast, this study also revealed that in spite of high ability students from low-income backgrounds having the grades and aptitude to gain access to selective colleges, they

were less likely to enroll in college than lesser-prepared students from middle class backgrounds (p. 4).

Similarly, Karabel and Astin (1975) found that placement within higher education was influenced by a student's academic merit as well as social class. The researchers investigated how these two variables influenced access to a selective college. Karabel and Astin's findings "demonstrated that, even when the effects of academic ability are taken into account, there are systematic differentials among classes in access to higher education" (p. 381). Social class influenced the quality of an institution one attended. Moreover, the colleges were found to reflect and transmit a pecking order among students that was evident in their career options. Although elite colleges recruit students from every socioeconomic background, the tendency to enroll students from affluent backgrounds was statistically documented (Karabel & Astin, 1975). Similar to Clark's (1960) early study, Karabel and Astin found an educational system that seemingly reflects access for all qualified, yet upon closer examination is constrained by social class and ability to pay for college.

Bourdieu and Passeron (1977) explained education plays an important role in defining social classes and promoting class-based interactions. Bourdieu and Passeron asserted,

> It is necessary to take into account the ensemble of the social characteristics which define the initial situation of children from the different classes in order to understand the different probabilities which the various educational destinies have for them, and the significance, for individuals in a given category, of their finding themselves in a situation of greater or lesser probability for their category (e.g., . . . the highly probable fact of having to take a job in order to continue higher education). (p. 89)

According to Bourdieu and Passeron (1977), social classes depend on academic institutions to provide individuals with greater standing in the traditional class structure once they complete their academic degree or program. These two systems of education and social class transmission often depend on the other and replicate societal hierarchies. In higher education systems these hierarchies produce college applicants from higher social classes who are advantaged by their educational experiences and extracurricular opportunities. Yet, there is a democratic assertion of a fair merit system in higher education based on a faulty assumption that each applicant has equal access to rigorous high school courses, competent teachers and similarly funded schools. The practice of college admission, cautioned Bourdieu and Passeron (1977), may serve to discourage the students less qualified to continue their studies and result in a high "educational mortality rate" for historically disenfranchised groups (p. 154).

Under this hegemonic structure, those in higher social classes gain access to the best academic preparation and extraordinary extracurricular opportunities and, in turn, are rewarded with admission to the most selective colleges and universities. All this occurs under the guise of a fair and competitive admission process (Bourdieu & Passeron, 1977).

Advancing up the social ladder is contingent on current class standing, educational experiences, acceptance of societal and institutional norms, and academic success. Collectively, this information serves to formulate a social class trajectory that somewhat dictates an individual's life destiny. Bourdieu and Passeron (1977) concluded that a person's background defines much of his or her life chances for access to specific

levels and types of educational systems, for success or failure in higher education, and ultimately for social promotion and acceptance in certain educational hierarchies.

According to Kempner and Tierney (1996), "Institutions of higher education were socially constructed realities developed, in part, from their own socio-cultural histories and traditions" (p. 1). Culture explained the value systems found and replicated in higher education; it justified what was studied and what was omitted or dismissed.

In contrast to Kempner and Tierney (1996), Bowles and Gintis (2001) described how a capitalistic system, "which emerged historically as a progressive force in the service of economic productivity and the ethos of individuality and personal freedom, has long become repressive and anachronistic, an obstacle to further human progress" (p. 58). In this setting, the status quo helps maintain power to those who control the human and capital resources. Bowles and Gintis continued, "The educational system, basically, neither adds to nor subtracts from the degree of inequality and repression originating in the economic sphere" (p. 58). Social relations between people in educational settings exhibit a level of acceptance to groups depending on their rank or social class. Bowles and Gintis asserted over time and after several interactions with educational institutions, certain students acquiesce to the domination of powerful groups that they "will face as mature workers" (p. 58). The researchers called for a socialist movement where segregating certain classes of people with limitations in their career options is eliminated in exchange for reforms that offer people the freedom to obtain broader educational resources than have been made available in the past.

By the mid-1990s, conflict theorists began defining the elite mentality that existed among some 4-year universities. Conflict theorists argued that gate-keeping courses serve to identify and fail students with inadequate secondary education. Elite classes maintain power in the higher education system and enforce policies and practices that enable a strong pipeline of affluent students to elite universities. According to Ballantine (1997), to understand the politics of access to elite colleges, or "who has access to [them], one must study all parts of the educational system: those who makes decisions about access, the criteria they use, and what type of university they are trying to create" (p. 250).

Racial conflicts, debates on the value of affirmative action policies, and continual academic and admission comparisons between Caucasians and underrepresented ethnic groups create an environment of self-doubt and uneasiness for some students. Ballantine (1997) stated, "Even with adequate preparation, many minority students feel undervalued, stigmatized and vulnerable" when attending an elite college (p. 273). To add to this threatening situation, students in a new collegiate environment can be the source of indirect or subliminal threats and innuendos of inferiority that lead to insecurities. Safe-haven programs such as retention, orientation, and mentorship programs work to break down these invisible and unfriendly institutional characteristics.

Quantitative studies. Several quantitative studies emerged in the 1980s that examined the institutional characteristics affecting transfer student access, persistence, and graduation. Velez (1985) compared the likelihood of completing a baccalaureate degree for those starting 2-year colleges versus 4-year colleges. His study investigated

whether the institution or the person had more influence on degree completion. A multivariate analysis with five factors was constructed: (a) personal background, (b) academic processes, (c) psychosocial processes, (d) institutional factors, and (e) institutional integration. The study found first-time freshmen at a university were 19% more likely to earn a bachelor's degree than their counterparts beginning at a community college. In addition, 42% of "native" (non-transfer) university students obtained their degree in 4 years, in comparison to only 12% of transfer students. These findings demonstrated how a native university student in comparison to a transfer student received better funded academic and non-academic resources that resulted in a higher rate of degree completion and student retention.

Similar to the Velez (1985) study, McClelland (1990) found that college persistence and graduation are positively influenced by the quality and selectivity of a university. McClelland also maintained, "Attendance at an elite institution offers more even-handed benefits to members of both privileged and non-privileged groups" (p. 118). Her study compared aspirations of high school students by sampling them and then sampling a smaller subgroup later to determine if their career aspirations were deterred. She found affluent groups tended to survive the college years with their occupational expectations intact, whereas women and low-income groups suffered from "cumulative disadvantage" associated with marriage and other challenging events (p. 102). Her findings seem to suggest the occupational and social returns for students from underrepresented backgrounds are discernible.

Hearn (1988) examined the determinants of postsecondary attendance using a broader definition of postsecondary enrollment. When examining the enrollment patterns of low-SES groups and women, he expanded the definition of postsecondary education to include proprietary schools and vocational or technical institutions. When these schools were added to the traditional mix of 2-year colleges and 4-year universities, there was a slight improvement in the participation rate among minority groups. Interestingly, this study identified how the roads leading to a 4-year degree may have beginnings at nontraditional schools such as proprietary or vocational schools. More importantly, these findings indicated a broader view of students participating in postsecondary education.

Grubb (1991) investigated the decline of community college graduation rates in absolute numbers and the similar deterioration in the proportion of transfer students coming from community colleges to 4-year institutions. He suggests the 1960s signified an era when a 2-year college's main responsibility was the implementation of transfer programs. He argues contemporary colleges have many roles besides the transfer function. In chameleon-like fashion, 2-year colleges grew adept at responding to their local community's economic needs as a way to maintain an advantage over student demands for profitable career skills. Given the changing focus of community colleges, Grubb provided several reasons why a strong student pipeline between community colleges and universities is still essential. One of his main reasons was that a strong transfer function provides tangible evidence of a rigorous academic program. Further, successful transfer students serve as proof of the portability and transferability of a

community college education. Once admitted, according to Grubb (1991), most transfer students "compete as equals against students who begin in 4-year colleges" (p. 195). Grubb also stated community colleges serve an "egalitarian purpose" of providing an alternative route to earning a bachelor's degree and a second chance for those not eligible as freshman applicants (Grubb, 1991, p. 196).

He found 47% of the high school Class of 1980 who entered a community college planned to earn a bachelor's degree while others either completed a vocational associate's degree or an academic associate's degree prior to transferring. Interestingly, his findings validated what vocational proponents had asserted—their programs serve as a legitimate route to a 4-year degree. Despite the growth in the vocational transfer route, there were significant declines in overall transfer rates from 1972–1980.

Grubb (1991) asserted, "For those transferring after receiving an academic Associate degrees, the proportion receiving a B.A. degree fell from 60.7 percent to 12.1 percent" between 1972 and 1980 (p. 208). Those transferring with vocational associate's degrees actually were the largest group of degree recipients among the three groups studied. Although he found it difficult to comprehend such a radical decrease in the number of students earning a bachelor's degree, it was also surprising to note the decline in transfer students earning an academic associate's degree.

Hilmer (1997) examined the effect that prior community college attendance had on selection and enrollment in a university. His econometric model focused on two decisions: the selected path to higher education and institutional quality. Variables used in his empirical analysis included family income, test scores, high school grades, and

tuition and fees. Hilmer concluded, "Hispanics who attend a university are more likely to transfer from a community college" (p. 63). His findings also suggested community college attendance has a non-negative effect on the quality of the university to which the student transfers. Moreover, students from poor economic and academic backgrounds tend to fare best in the transfer process by matriculating to a higher quality university (i.e., a university with a high national ranking for their academic offerings and quality of students) than would have been possible had they enrolled in a 4-year college immediately after high school.

Cheslock (2003) studied the determinants of an institution's transfer enrollment rates at public and private institutions. His conceptual framework identified two main characteristics that drive an institution's transfer enrollment: the institution's need for the characteristics of transfer students and direct attendees and the number of students of each type desiring enrollment. He found the transfer enrollment rate declines as the student moves from a less selective to a more selective private institution. In contrast, his findings also revealed that selectivity did not influence the transfer enrollment rate at public institutions to the extent found with private institutions. He concluded public institutions maintain a greater commitment to ensuring transfer student access.

Case studies. To showcase institutions of higher education with strong transfer student rates, Rendón (1998) used a multiple case study design. She began her study by raising the question of which institution is more to blame for an inadequate transfer pipeline. Rendón's answer was that both the 2-year and 4-year colleges are at fault. In her final analysis, she was more critical of community colleges, asserting they are

largely responsible (also see Clark, 1960; Karabel & Astin, 1975) for steering students away from transferring. As Grubb (1991) demonstrated, some transfer students come from vocational and technical program backgrounds. This route may suggest students are entering the university with fewer transfer credits, due in part to the lack of articulation agreements between vocational and technical programs and most 4-year schools. The low level of transferability of these courses to selective institutions extends the time to degree and college costs. Rendón highlighted two campuses focused on transferring students successfully.

Palo Alto Community College in San Antonio prides itself on being seen as a transfer-oriented campus, with approximately 70% of its students matriculating to 4-year universities. In another example, Arizona's Maricopa Community College partnered with Arizona State University to increase its transfer rate. Rendón (1998) reported that 36% of the first-time students at Arizona State University are defined as transfers, and nearly 41% of upper level undergraduates are transfers. These successful programs are proof more can be done to improve the exchange of students and fulfill their plans for a baccalaureate degree.

Institutional policy and transfer program studies. Cohen and Brawer (1996) examined institutional and state policies and programs affecting transfer rates. As past studies have suggested (American Association of Community Colleges & American Association of State Colleges and Universities, 2004; Brint & Karabel, 1989; Clark, 1960), community colleges emphasize the transfer function in varying degrees. In

contrast, the acceptance of community college transfers by 4-year universities varies by institutional mission, size, selectivity, and student demand.

Cohen and Brawer (1996) defined *transfer rate* as

> all students entering the community college in a given year who have no prior college experience and who complete at least 12 college-credit units, divided into the number of that group who take one or more classes at in the-state, public university within four years. (p. 2)

Cohen and Brawer used 1993 data from 395 institutions and found transfer rates ranged from 8.3%–61.4%. Addressing the reasons behind the variation was the focus of their study. Campuses were coded as a low-transfer or high-transfer college based on external factors such as state policies, community demographics, and distance to admitting university. The findings were based on transfer statistics for the participating seven states. In addition, staff and faculty interviews at two community college institutions in each state, as well as campus visits where possible, were included.

Based on the findings, Cohen and Brawer (1996) recommended a common course-numbering system to "guarantee . . . that proper credit will be given for courses taken at feeder colleges" (p. 36). They also suggested more attention and resources should be given to recognizing transfer students and promoting their transition. Finally, building relationships between universities and community colleges was recommended (a) to initiate understanding of the courses taught at each campus, (b) to begin cross-teaching or team-teaching to strengthen the rigor of community college courses, and (c) to formulate relationships with potential transfer students.

In a rare look at university faculty and the student transfer process, Eaton (1988) examined their role and impact in the policies and practices surrounding the transfer function. She revealed how the transfer function has been unsuccessful in expanding the number and diversity of students continuing to a 4-year university. As an exception, New Jersey and Florida have state legislation to promote transfer. Eaton maintained involving faculty and administrators in the development of a comprehensive transfer program provides greater understanding and accountability. Promoting discussions and collaboration on curriculum between faculty at 4-year and 2-year institutions is necessary. These individuals represent the major decision makers for each institution in terms of shaping which students are encouraged to apply to the receiving institution and what type of reception they receive from faculty once they are enrolled. A welcome and positive outcome for many potential transfer students would be more faculty interaction between institutions, a closer relationship and connection between academic programs and curriculum at 2-year and 4-year institutions.

In conclusion, Eaton (1988) defined

> five conditions for improved community college transfer frequency and effectiveness: (a) a genuine institutional commitment to the importance and centrality of transfer, (b) organizational and managerial support within institutions for transfer, (c) the adoption of one or more specific models for transfer with particular attention to the promise of the academic model, (d) implementation of enriched financial assistance programs for students who transfer, and (e) meaningful assessment of transfer effectiveness. (p. 68)

Unlike Eaton's non-state specific study of the transfer function, Bracco and Callan (2001) analyzed the effectiveness and efficiency of the California Master Plan as it pertains to the transfer of community college students. The Master Plan was developed

in 1959 and provides structure and definition to each higher education component by "differen[tiating] functions or missions within which to strive for excellence" (Bracco & Callan, 2001, p. 4). The vision associated with the Master Plan was one of "populist egalitarianism, where the transfer function was not an afterthought but an assurance of access to community college students" (Bracco & Callan, 2001, p. 3). The strength of the Master Plan of 1960 was its structure and differentiation of student admission criteria among the University of California System, the California State University campuses, and the state's community colleges. As a result of the segmentation and distinct missions of each higher education system, the plan did little to encourage cooperation among campuses. However, the plan did require University of California and California State University campuses to maintain a ratio of 60% upper division to 40% lower division students (Bracco & Callan, 2001, p. 7). Despite this state mandate to maintain an adequate transfer pipeline, the number of students transferring to the research universities and the state universities after 1997 decreased. For example, the California Postsecondary Education Commission examined the data after the late-nineties and found less than 25 institutions sent about 64% of all transfer students to the University of California (Bracco & Callan, 2001).

In a striking move to improve the transfer function, the head of the community college system crafted several Memoranda of Understanding with The University of California (UC) System and the California State University System to increase the number of community college transfer students. The UC System agreed to increase its transfer population by 6% between 1999 and 2005. The university also committed to

increasing the number of transfer students from low-feeder community colleges by 15% annually (Bracco & Callan, 2001, p. 9). Similarly, partnerships between the UC universities, California State universities and the Governor's Office were undertaken to increase and sustain agreements between these entities. The agreements primarily focused on lower division course requirements for the 20 most popular majors (Bracco & Callan, 2001). Over time, the California State University leadership also committed to establishing the same lower division courses for their academic programs and established institutional agreements between their campuses and sending community colleges. In 2002, an alternative route to a University of California institution was set into motion with the university regents' support of the Dual Admission Program. At University of California institutions, high school students graduating in the top 12.5% of their class were given an alternative transfer route to admission by enrolling in a community college and fulfilling specific course requirements. Unfortunately, the Dual Admission Program was eliminated in 2004 after the state withdrew its funding (University of California, 2008). Bracco and Callan (2001) provided a synopsis of "student transfers across [higher education] segments" and related partnership efforts but found little accountability and structure in the California Master Plan to ensure collaboration occurs on a significant and sustainable level (p. 13). With community colleges expected to grow by 529,000 of an estimated total of 2.2 million by 2010, the California transfer function will be stretched to its limits (Bracco & Callan, 2001, p. 18).

In a study requested by Congress, the U.S. Government Accounting Office (GAO) (2005) examined institutional policies on the acceptance and denial of transfer

credits. The federal agency studied whether facilitation between states and accrediting agencies to promote efficiencies in the credit awarding process occurred. The GAO reviewed the decision-making process institutions use to determine which courses count for transfer. Considerations for accepting courses hinged on the "sending institution's type of accreditation, particularly whether an academic transfer agreement with the sending institution existed, and the comparability of coursework between the sending and receiving institutions. The report suggested "policies vary in how [postsecondary institutions] evaluate and apply a student's transferable credits" (U.S. Government Accounting Office, 2005, p. 3). A major finding of this study indicated that community college transfer students completed 10 more credits and three more months than native university student to earn their baccalaureate degree. The U.S. Government Accounting Office summarized with the increased time for transfer students earning a 4-year degree, there was a simultaneous increase in college costs and a lower graduation rate than the native 4-year students. The report strongly recommended that 4-year receiving institutions accept transfer credit from regionally and nationally accredited institutions so that federal aid programs could avoid paying for a student to repeat a course.

Meta-Analysis

Pascarella and Terenzini (1991) did a meta-analysis of several studies conducted from 1960–1989. Collectively, the studies conclude that going directly to a 4-year institution to pursue a baccalaureate degree, rather than the community college transfer route, improved the odds of completing the degree by 15–20 percentage points. Transferring from a community college was found to hinder student retention and,

degree attainment. The negative effect of switching colleges was evident even after controlling for certain student traits and institutional characteristics.

Kozeracki (2001) provided a synopsis of the research on transfer students but focused more specifically on the challenges of transfer studies, given the lack of consistent and easily attainable data. Researchers at 2-year institutions typically have conducted studies on transferring. Nevertheless, institutional reports to state agencies form the bulk of the studies and usually include the number of student transfers, and the students' academic performance, GPAs, and demographic characteristics. Qualitative studies based on multiple student surveys or a single case study at an institution, are also popular methods of studying transfer students. Kozeracki concluded transfer studies should be tied more directly to faculty, who often are the decision makers on campus and the architects of academic programs that may play a part in assisting or deterring a transfer student from achieving his or her college aspirations.

Recent National Studies

In recent years, there has been a renewed interest in the study of transfer from 2-year colleges to 4-year universities. A report by the American Association of Community Colleges and the American Association of State Colleges and Universities (2004) identified several roadblocks to a 4-year degree: faculty attitudes and perceptions at sending and receiving institutions, inadequate academic advising and support services, and current state and system policy decisions. A documented and ongoing challenge directly affecting transfer admission is the lack of communication between postsecondary systems on changing and additional prerequisites, which complicates the

articulation process and thereby frustrates the students. In addition, the diminishing state support for higher education is resulting in less growth at a time when increased capacity is necessary.

The explosive population growth of community colleges in the 21st century has led to renewed interest in the transfer function between 2-year colleges and 4-year universities. The Jack Kent Cooke Foundation supported four research projects packaged as a set of reports on transfer student access and success at elite public universities. Dowd et al., (2006), one of the research groups supported by the Cooke Foundation, found that barriers to a baccalaureate degree among transfer students are pervasive, particularly among highly ranked public universities. Melguizo and Dowd (2006), authors of another one of the four reports examined economic, informational, and cultural barriers affecting community college student transfer access to selective institutions. They found "transfer access from community college to highly selective colleges and universities is practically negligible for socio-economically disadvantaged students" (p. 3). For the few who do come from low-income backgrounds and transfer to an elite institution, their academic performance and graduation is similar to native (non-transfer) university students. In this study, an overrepresentation of 44,000 affluent transfer students was documented to have enrolled in a 4-year university. Equally disturbing was the fact that only 47,000 low-SES students transferred to selective institutions, an amount that should have been much higher based on the study's projections of this population (p. 4).

Theoretical Framework

As this literature review indicates, several scholars have found a growing number of 4-year elite colleges and universities are serving a growing number of middle-income and upper-income students through their transfer and freshman routes, leaving little room for low-income students to compete in either of these higher education markets (Dowd et al., 2006). According to Dowd and Melguizo (2008), the transfer function at elite colleges and universities is serves as a form of sponsored mobility for "academically mediocre" middle-class and elite students seeking to maintain their social status with a prestigious academic credential.

The present study is situated in Turner's (1960) two frameworks of social mobility. The first framework is contest mobility. It is derived from an American norm where

> elite status is the prize in an open contest, with every effort made to keep lagging contestants in the race until the climax. In contrast, sponsored mobility, an English norm, involves controlled selection in which the elite or their agents choose recruits early and carefully induct them into elite status. (Turner, 1960, p. 855)

The study provides a unique contribution which goes beyond most of the studies on transfer student admission by examining the significance of transfer routes including the Coordinated Admission Program, a conditional transfer admission program for non-Top 10% freshman applicants that resulted after all fall admission slots were filled. Using Turner's (1960) contest mobility framework, the study addresses if community colleges serve as a viable alternative path, for transfer students to UT Austin.

Summary

This chapter provided a review of the varied literature on transfer student issues, primarily access, admission, and retention. Several themes emerge from this examination. A prominent theme among the literature is the "cooling out affect" of community college which is characterized by diminished or deterred aspirations among 2-year college students to pursue a baccalaureate degree (Astin, 1974; Bourdieu, 1977; Clark, 1960; Melguizo & Dowd, 2006; Peng, Bailey & Ekland, 1977; Rendón, 1993, 1998; Sewell, 1971; Swift, 1976), transfer student persistence and graduation (Grubb, 1991; McClelland, 1990; Pascarella & Terrenzini, 1991; Velez, 1985), transfer routes to a 4-year college (Hearn 1988; Hilmer, 1997; Cheslock, 2003), challenges associated with institutional transfer policy and practice (American Association of Community Colleges and American Association of State Colleges and Universities, 2004; Bracco & Callen, 2001; Cohen & Brawer, 1996; Eaton, 1988) , and transfer student access to elite universities (Dowd, et al., 2006; Melguizo & Dowd, 2006;). The chapter also defines the various types of capital, mobility, and access (Abowitz, 2005; Bourdieu, 1986; Bourdieu & Passeron, 1977; Rendón, 1998, Turner, 1960) and holistic and automatic admission practices and outcomes in Texas (Long & Tienda, 2008; Nui, Tienda, & Cortes, 2006; Saenz, 2007; University of Texas Office of Admissions, 2006).

This chapter reviewed the history of the roles both community colleges and 4-year universities played in the transfer function (Brint & Karabel, 1989). It included an extensive review of the transfer admission process and policy changes resulting from recent Supreme Court rulings on the use of race and ethnicity in admission decisions.

The chapter goes on to provide evidence of factors affecting transfer admission and a continuation of low transfer rates except among the most affluent populations. The final piece of the literature review was an overview of the study's theoretical framework. Next, chapter three presents the multi-method research design, the rationale for selecting a broad range of methodological tools, and the systematic process used to address the qualitative and quantitative portions of the study.

Chapter Three: Research Design and Methodology

Purpose

The purpose of this chapter is to describe this study's research design and mixed methodology. It includes an explanation of the sample, data collection, and procedure and data analysis undertaken to address each research question. First, the qualitative methods used to answer research question 1 are explained. Next, the quantitative design and method addressing research questions 2 and 3 are described. To reiterate, the primary purpose of the mixed method study is to identify key admission policies and practices as well as explanatory variables predicting transfer admission to The University of Texas at Austin. Its unique contribution to the literature is that it offers a rare examination of a large flagship university's transfer admission practices. A second unique contribution is the inclusion and analysis of interviews with administrative leaders on their perceptions of the impact of the Top 10% Law on transfer recruitment and admission. Before the study commenced, formal approval by the Institutional Review Board was obtained.

Mixed Method Research Design and Rationale

Teddlie and Tashakkori (2009) aptly asserted, "The ultimate goal of any research project is to answer the questions set forth" (p. 33). With this in mind, the author chose a mixed method research design that is pragmatic and centered on effectively analyzing a complex transfer access issue over adhering to a particularly narrow methodological construct that can constrict a study's scope and results (Johnson & Onwugebuzie, 2004;

Tashakkori & Teddlie, 2003). Moreover, the use of more than one method creates a powerful mechanism for cross validation when there are congruent results (Jick, 1979).

To piece together how policy and practice intertwine to produce a particular quantitative outcome, the study required the inclusion of methods that provided both descriptive and causal inference. To achieve this goal, both quantitative and qualitative data were acquired. The general period of study was 1998-2007, a period where university enrollment grew and admission policy changed for freshmen and transfer students. The quantitative outcomes were the crux of the study while the qualitative research served to corroborate and explain reasons for the outcome's occurrence.

This research structure is commonly known as a sequential explanatory design (see Figure 2). The procedural sequence of quantitative followed by qualitative data collection and analysis was the most appropriate design with the trend data from the exploratory study representing phase 1. However, the inclusion of a second quantitative phase was a necessary adaptation for this study. It is this second phase of quantitative research that anchored the study with several logistic regression models designed to identify statistically significant variables associated with transfer admission.

Mixed Methods Model: Sequential Explanatory Design

As stated earlier, the sequential explanatory design (Figure 2) is defined by its emphasis on the collection and examination of quantitative data and then qualitative data (Creswell, 2009). There were five phases for this study. Phase 1 included a review of trend data from an exploratory study that provided secondary data to inform this larger study (see chapter four). Phase 2 consisted of an archival review of university

documents and newspapers. This phase also included loosely structured interviews with university administrators who generated themes associated with the transfer function (see chapter five). Phase 3 produced several logistic regressions and the analysis of odds ratios to determine the opportunity for admission by transfer route, year, ethnicity, and gender. Phase 4 included the interpretation and synthesis of the mixed research (chapter six). Together, findings from the prior and current mixed research study were integrated and synthesized in Phase 5 to formulate a summary of the findings, conclusions, and implications for policy, practice and research (Creswell et al., 2003).

Under this model and specific to this study, quantitative findings drive qualitative inquiries that in turn inform several logistic regression analyses.

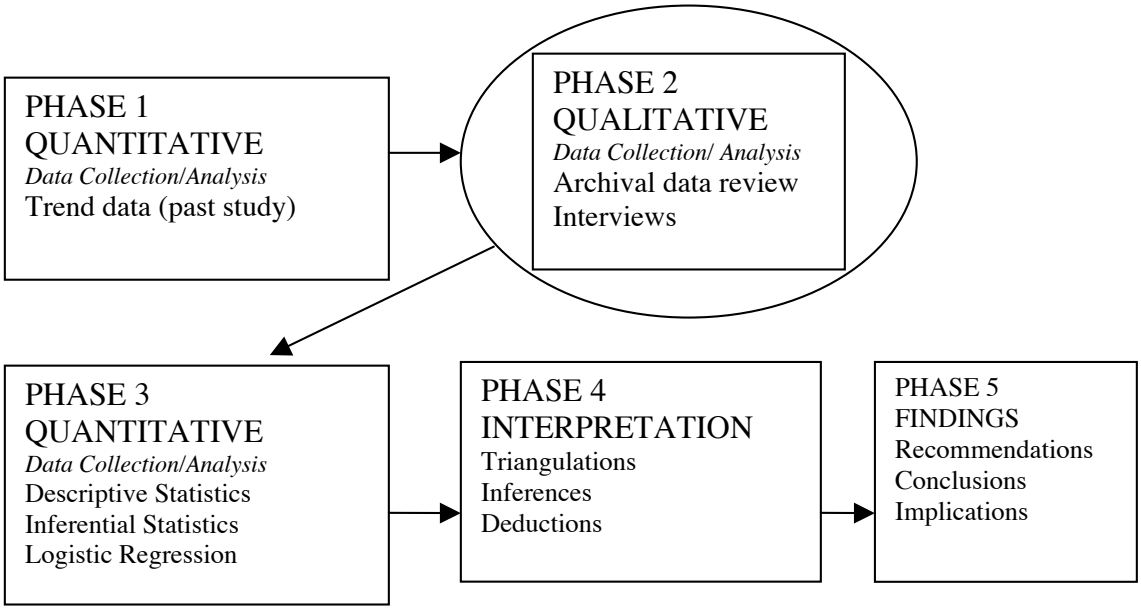

Figure 2. Sequential Explanatory Process. Adapted from Creswell, Plano Clark, Gutmann, & Hanson, 2003

Research Questions

The questions crafted for this study were influenced by a prior research (Astin & Karabel, 1975; Brint & Karabel, 1989; Clark, 1960; Dowd, Cheslock & Melguizo, 2008; Dowd & Melguizo, 2006; Frank & Lee, 1990; Pak et al., 2006) on transfer student access, admission, and enrollment to a selective 4-year university. The questions, methodologies, data sources and expected outcomes for this study are outlined in Table 1.

Table 1

Outline of the Multi-Method Research Design

Question	Methodology	Data Source	Expected Outcome
1. How did transfer admission criteria change between the mid 1990s -2007?	Document review, descriptive statistics, and interviews	General Information Catalogues, aggregate and trend data from the Office of Information Management and Analysis and loosely-structured interviews with university administrators	Documentation of changes in admission criteria and transcriptions of interviews with university staff engaged in transfer admission decisions
2. Is there a difference in admission between a community college transfer applicant and other transfer applicant?	Trend data and logistic regressions	Ten years of trend data and extant student level data from 1998, 2002, & 2007	Identify differences in admission between community college transfer applicants and other applicants
3. What specific factors affect transfer admission?	Logistic regressions	Extant student level data from 1998, 2002, & 2007	Identify factors affecting transfer admission

Qualitative Methods

Qualitative methods were used to explore and sequence the history of admission policy and practice and to probe university administrators for their perceptions of the reasons driving changes in transfer admission. Eliciting a response to the value associated with transfer students was also a goal of the study.

Data collection and procedure for archival review. Lincoln and Guba (1985) forward three important reasons to include an analysis of documents and records. First, these printed materials are usually free and readily available. Second, they are typically historically accurate and consistent in message. Third, "they are a rich source of information; contextually relevant and grounded in the contexts they represent" (Lincoln and Guba, 1985, p. 277). Published copies of admission criteria from the General Information catalogues were collected and analyzed to construct a matrix of freshman and transfer admissions policies and practices from the mid-1990s to 2007. The General Information catalogues containing the admission criteria and application evaluation process were available through the Center for American History at UT Austin. Other documents used to construct the matrix were university reports available on the university website. Key admission policies, practices, and judicial rulings were recorded as well as peak freshman and transfer enrollment numbers. As is the case with the creation of an admission policy matrix, the analysis of documents provides "records of activity" for a time period not observable by the researcher (Stake, 1995, p. 68).

The admission matrix chronicled over 10 years of changes in admission policy and practice that informed outcomes from the quantitative data analyses and then were triangulated with interviews of university staff.

Sample and data collection for interviews. For this stage of data collection, purposeful sampling was used to conduct several interviews with university administrators and to acquire information about historical changes in undergraduate admissions from the mid-1990s–2007. The interview questions were informed by the preliminary data findings that surfaced through the archival document review as well as the initial exploratory study on the trend data of transfer students. Themes that emerged across interviews were identified and supported with quotes and summarizations or paraphrasing of the interviewees' responses. To protect the participants' identity, pseudonyms were used. Through a content analysis, the researcher recorded institutional values associated with transfer students as revealed in the interviewees' words and compared and contrasted them with the formal actions of the institution.

Each interview participant was asked a series of questions with some follow-up questions during a 90-minute interview (see Appendix A) in their respective offices. Questions pertained to the participant's work-history, the history and processes associate with transfer admissions, comparisons between transfer populations and the freshman population, and the future of transfer admissions and value of transfer students. The interviewees signed an agreement consenting to be interviewed. The participants received a written transcription of the researcher's hand written notes of the interview

and were asked to edit or modify any comments recorded. This information was then triangulated with other qualitative data to elucidate connections and contradictions.

Quantitative Methods

Sample and data collection for logistic regression models. For this quantitative phase of the study, student-level data was purchased through an Open Records Request submitted to the Chief Financial Officer for the university. The request was for ten years of student records (1998-2007). The request was granted and Excel files were provided on CDs and then imported into SPSS 16.0. The study used de-identifiable, student-level transfer student records, requiring a high level of precautions to insure the security of the data was maintained as outlined by the University's Institutional Review Board. At the request of the researcher, a random identification number for each student was assigned so duplicate student records could be eliminated.

Dataset cleaning and consolidation. For the purpose of the study and time constraints involved, three years of data were selected for the present study. A master file of student level records was created from five datasets containing 1998, 2002, and 2007 regular transfer applicants, and 2002 and 2007 Coordinated Admission Program (CAP) transfer applicants. Dataset files consisting of regular transfer records included transfer applicants from a public 4-year university, private 4-year university, 2-year public college, and 2-year private college. This dataset also included applicants from a proprietary school, military school, professional school, medical teaching center, and foreign postsecondary institution. Records of first-time freshman applicants offered CAP were provided as separate datasets. CAP records included both applicants who did not

satisfy the CAP contract and were under review and those who satisfied their contract and were offered guaranteed admission. CAP was launched in 2001 with the first transfer cohort entering UT Austin in 2002. To distinguish changes prior to and after the implementation of CAP, 2002 was used as the reference year. This inaugural cohort and the 2007 cohort were included in the study. All datasets contained the same list of variables. The combined datasets totaled 26,106 student level files and included fall, spring, and summer application data.

Non-Texas applicants (i.e., students coded as international and students from colleges and universities outside of Texas) and incomplete applications were eliminated. In addition, student records with the admission decisions of pending further review, offered provisional admission, and no further action taken were also excluded. Summer and spring records were also omitted, as the fall semester was the period defined for the study. Duplicate files were reviewed individually. Random selection of one record was made for students who were denied to one major, but admitted to a second major choice. Applicants from 2-year private institutions and 2-year technical colleges were omitted due to their small cohort size. Proprietary and professional school applicants were also excluded due to the small cohort size and their academic dissimilarities from the groups in the working dataset. There were 138 applicants who recorded a Grade Point Average (GPA) of 0.00. These records were eliminated as they were all coded as denials and considered outliers.

The cleaned master dataset contained of 8,762 records, representing 34% of the original dataset. The file breakdown was 4,563 applicants (52.08%) from community

colleges, 2,535 applicants (28.93%) from 4-year public universities, 992 CAP transfer applicants (11.32%), and 672 applicants (7.67%) from 4-year private universities, and in Texas.

Data analysis. After the master data file was cleaned, descriptive and inferential statistics were employed. Descriptive statistics characterized the sample population by year. Inferential statistics were calculated to identify correlations between the two continuous variables, transfer GPA and transfer credit hours. The two variables were correlated at $p = .000$. Transfer GPA was chosen for inclusion in the logistic regression model because it had a higher predicted probability as an explanatory variable than transfer credit hours. Chi-square statistics were calculated to determine differences among categorical subgroups of a factor such as ethnicity. These calculations helped to inform the development of a series of sequential logistic regressions.

Logistic regression models. To predict the probability of transfer admission to The University of Texas at Austin, several logistic regression models were crafted using student-level data for three distinct years in time. The model was designed to calculate the magnitude and significance of factors affecting a binary dependent variable representing transfer admission (Cabrera, 1994; Hosmer & Lemeshow, 1989; Osborne, 2006; Pampel, 2000). No weights were included in the model, given that extant data of the population was provided by the university. In the base regression model (Equation 1), the predicted probability of transfer admission was represented by the dichotomous dependent variable and transfer GPA served as a continuous covariate. The p- level for all models was set at $\propto = .05$.

Hosmer & Lemeshow (1989) explain, "What distinguishes a logistic regression model from the linear regression model is that the outcome variable in logistic regression is binary or dichotomous" (p. 1). In the case where a binary response variable is the probability of admission (0/1), a logistic regression is superior over linear regression models. According to Cabrera (1994), linear regression models are not suitable for this analysis in light of the dichotomous nature (admit = 1, no admit= 0) of the dependent variable (Cabrera, 1994). Given these considerations, the logistic regression was the most appropriate technique for addressing question 3.

The logistic regression model(s) utilized five explanatory (*x*) variables representative of a student's demographic and academic characteristics to construct dummy variables. The admission variable was dichotomous with a "1" to indicate admission to the University and a "0" to indicate denial. Using the sequential explanatory sequence of operations, the researcher utilized numerous chi-square and *t*-tests outputs to build more parsimonious models that best estimated the likelihood of transfer admission to the flagship university. Odds ratios were analyzed to show the degree of opportunity of admission for an explanatory variable when referencing a dummy variable. To generate an inverse odds ratio, the equation 1/Exp(β) was used. This step was employed when odds ratios of the explanatory variables were less than 1.0 According to Osborne (2009), calculating the inverse odds ratio enables the reporting of the data to be standardized so that effect size is always greater than 1.0. In addition to odds ratios, the summary statistics used to measure the soundness of the model were the Nagelkerke R^2 statistic and the observed to predicted statistic. The latter statistic

measures the percentage of transfer admission predictions that were accurate for each regression model included in the study.

Equation and Explanation

According to Rumsey (2007), the general equation of the best fitting logistic regression is

$$p = \frac{e^{b_o + b_1 x}}{1 + e^{b_o + b_1 x}} \qquad \text{(Equation 1)}$$

However, the model that best reflects the logistic regression for *this* study is:

$$p = \frac{e^{\beta_o + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_{5\ldots} \beta_n x_n}}{1 + e^{\beta_o + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_{5\ldots} \beta_n x_n}} \qquad \text{(Equation 2)}$$

where p = the expected probability of the outcome being "admitted'
e = error
β_o = regression constant
x = regression variable
n = number of explanatory variables

Table 2 provides the descriptions of 10 dichotomous explanatory variables and two continuous variables considered for this study. These variables are included in previous research on transfer student issues and are representative of two factors: academic background (i.e., transfer GPA) and student background characteristics (i.e., year applied, transfer route, ethnicity, and gender). Continuous variables representing transferrable GPA are based on a 4.0 scale. There are three feeder pattern variables, three ethnicity variables, and a gender variable. Reference variables were 2002 for year, community college for transfer route, Caucasian for ethnicity, and male for gender. Other variables of interest are parent educational level and household income, but the

extant data had scant records in these areas except for CAP students who had completed a freshman application where this information had a fair rate of respondents.

Table 2

Variable Coding for Model

Variables/Factors	Variable Name	Coding	Reference Criterion
Year	Year_1998	1=yes/0=no	2002
	Year_2007	1=yes/0=no	2002
Academics	Transferrable GPA	N/A	N/A
Feeder Pattern	Public 4-yr University	1=yes/0=no	Community College
	Private 4-yr University	1=yes/0=no	Community College
	CAP	1=yes/0=no	Community College
Ethnicity	Latino/a	1=yes/0=no	Caucasian
	Hispanic	1=yes/0=no	Caucasian
	Black	1=yes/0=no	Caucasian
	Asian American	1=yes/0=no	Caucasian
Gender	Female	1=yes/0=no	Male

Assumptions. The four major assumptions necessary to use logistic regression are: (a) linearity in the logits, (b) an absence of multicollinearity, (c) statistically independent responses, and (d) a sample size with $n \geq 30$ (Cabrera, 1994; Hosmer & Lemeshow, 1989). The independent variables must include at least one nominal variable and can include categorical variables, thus a model with variables of varying measurement scales, as is the case with this study, is appropriate. As Cabrera (1994) explains the dichotomous nature of the dependent variable results in output that reflects an S-shape pattern. The output consists of a constant term and regression coefficient for each predictor variable.

Significance tests: chi-square and *t*-tests. The inferential statistical tests utilized to examine the student-level data. Chi-square or *t*-tests were calculated to

demonstrate statistically significant differences at the p< .05 level. These results guided the series and sequence of logistic regression models included.

Triangulation, Complementarity, and Validity

The sequential exploratory design is advantageous in comparison to a purely quantitative or qualitative study because of its ability to provide expanded triangulation and to explore the complementary nature of the data (Caracelli, Greene & Graham, 1989). Triangulation seeks to find common connections or reveal disconnections among the qualitative and quantitative findings (Lincoln & Guba, 1985). The intent of complementarity is to generate a comprehensive picture of the findings to increase "interpretability, meaningfulness and validity of construct" (p. 127). The study's multi-phase approach is premised on the idea that early methods will inform subsequent phases (Caracelli & Greene, 1993). As an illustration of this construct, the researcher first studied the findings of her exploratory study. The study's findings revealed a decrease in 2-year transfer enrollees and a simultaneous increase of 4-year transfer enrollees to the university. The finding of the exploratory study, led the researcher to investigate what was driving the increase in 4-year transfers. In the current study, interview questions were created to address these findings and either confirm or contradict them. All interview participants confirmed the initial findings, and each participant provided information and inferences on the cause in the rise of 4-year transfer students. To ensure "qualitative validity," the researcher uses member checks to revisit and confirm notes recorded during interviews (Creswell, 2009, p. 190). The archival review of admission policy and practices was shared and reviewed by a

University administrator knowledgeable in transfer admission to ensure clarity and accuracy of the findings. The researcher then employed techniques to maintain quantitative reliability by comparing the consistency of her findings with past research albeit not particular to the UT Austin, but similar transfer admission studies to elite universities (Dowd, Cheslock, & Melguizo, 2008; Dowd & Melguizo, 2008; Melguizo & Dowd, 2006).

Although not all the findings could be corroborated by other studies, the quantitative results from the initial exploratory study and the findings associated with both the archival review and interviews did support the major finding from the second phase of quantitative methods which found the CAP transfer pathway to be statistically significant among transfer routes and, consequently, a constraint to 2-year transfer growth.

Summary

This chapter provided an overview and rationale of the mixed method design selected, a review of the study's research questions, a detailed explanation of the qualitative and quantitative methods employed, and descriptions of data collected and analyses undertaken for each of the study's phases. The next chapter provides the findings for the exploratory study that served as the precursor to this larger mixed method study.

Chapter Four: Exploratory Study Findings

Introduction

This chapter presents the findings from an earlier study exploring changes in the transfer student population at UT Austin after passage of the Top 10% (TTP) Law. The purpose of the study was to examine whether downward trends in the number and percentage of transfer students who enrolled at the university during the era of automatic admission were a coincidence or an unintended consequence (Martinez, 2009). Data obtained for the prior study produced three descriptive analyses that are discussed in this chapter. Figure 3 shows trends in the number of transfer students who came from 2-year and 4-year colleges. The data represent the total transfer populations for fall, spring, and summer semesters combined. Figure 4 depicts trends in the number of offers, contracts, and transfer students associated the Coordinated Admission Program (CAP). The data were retrieved from three major sources: the Office of Admissions, Office of Information Management and Analysis (formerly the Office of Institutional Research), and publicly available print resources.

Trend lines for the number and percentage of students who transferred from either a 4-year or 2-year academic institution were plotted to show periods of stability and change. However, one limitation of the transfer route data was the inability to disaggregate the number of transfer enrollees by public and private 2-year and 4-year institutions. Although CAP is not disaggregated in the enrollment trends, Figure 4 does provide a bar chart with the number of CAP offers, contracts, and transfer enrollees to

the university. As explained previously, the analyses of these descriptive statistics represent the first phase of the sequential explanatory design for the current study.

Trends for 2-Year and 4-Year Transfer Students

Figure 3 identifies trends in 2-year and 4-year admission rates to UT Austin for combined fall, spring, and summer enrollment by year. With the exception of 1996 data, the trend lines captured the 10-year period following the *Hopwood* (1996) ruling. The longitudinal data also captured CAP enrollment trends from 2002 to 2007.

In 1997, community college transfer enrollees totaled 2,025, the largest total for the 10-year span documented. Coincidently, this was also the first year the TTP law was implemented. From 1997-2000, community college and 4-year transfer student experienced a downward trend in enrollment. The lowest enrollment point in this series of years was 2000, the year the university peaked in enrollment with over 50,000 students, and a spring moratorium on fall and spring admission was enacted.

In 2000, when the flagship university experienced one of its highest points in student population, the overall transfer enrollment sank to its lowest point. With the commencement of the Coordinated Admission Program (CAP) in 2001 and the first CAP transfer cohort eligible for transfer in 2002, the number of students transferring from 2-year colleges began to decline quite drastically. Before the CAP, the number of transfer students was lowest in 2000, the year of the spring admission moratorium. After CAP was established, the number of 2-year transfers dropped below the 1,212 student marker when the moratorium was in effect. The population of 2-year college students fell consecutively for first three consecutive years of CAP's existence. With enrollment

falling from 1,614 students in 2001 to 851 students in 2004, there was a difference of 763 students.

In 2005, more stringent CAP requirements for guaranteed transfer admission were introduced to better manage growth. After this change, the increase in 4-year transfer students became less pronounced. While 2-year student population increased by approximately 400 students from 2004-2006, the trend indicates a post-CAP transfer population mainly comprised of 4-year transfer students. Although this data analysis does not offer causal evidence between the emergence of CAP and the decline of the 2-year transfer student population, it does seem to suggest an inverse relationship between the two populations.

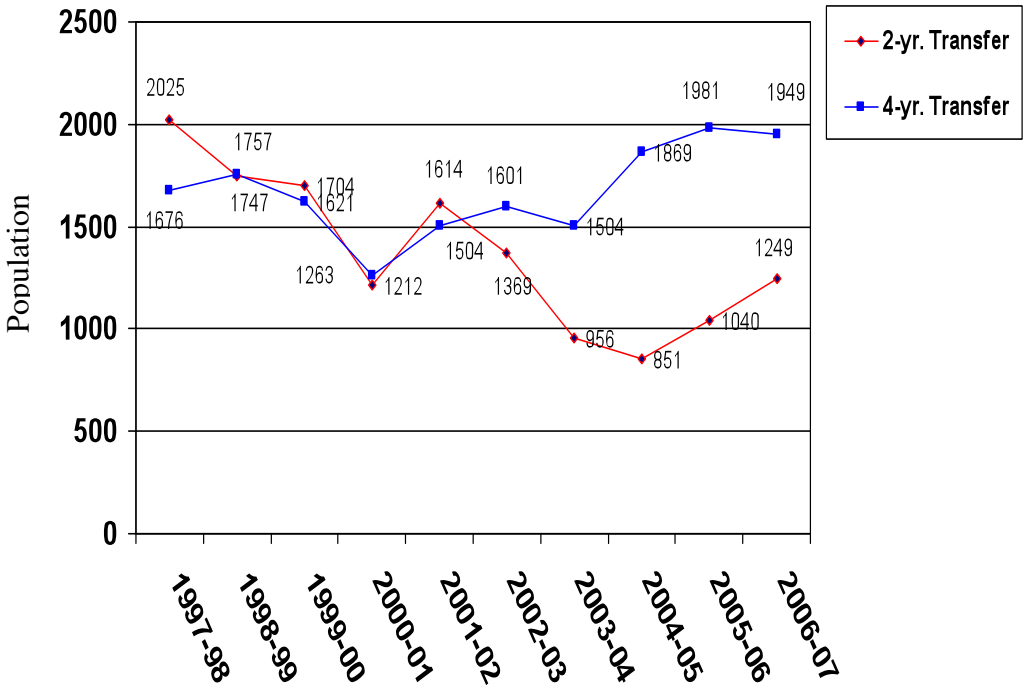

Figure 3. Trend Lines of 2-Year and 4-Year University Transfer Enrollees: 1997- 2007. Source: Institutional Research Statistical Handbooks 1995-2006; Fall, Spring & Summer Transfer Enrollees Combined.

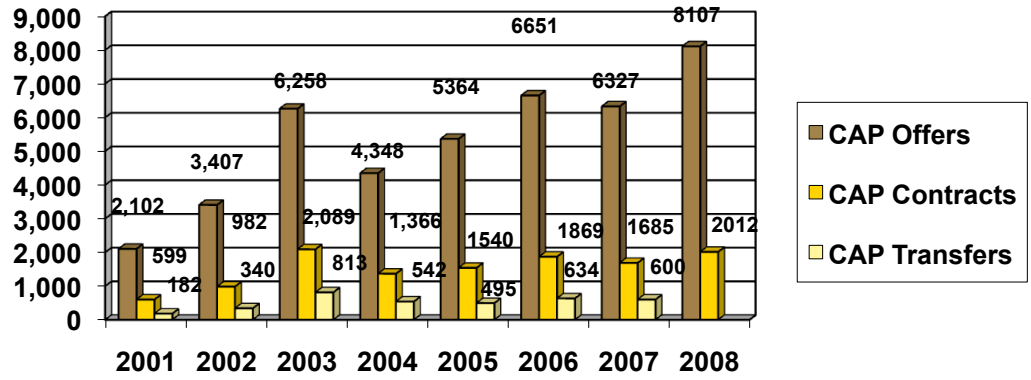

Figure 4. Coordinated Admission Program (CAP) Offers, Contracts, and Transfer Students.

Figure 4 shows the remarkable growth in the Coordinated Admission Program (CAP) from 2001 to 2008. The conditional guarantee transfer program was initiated after a select, but growing number of admissible non-TTP freshmen were unable to be admitted to the fall semester to which they applied, nor to the summer semester of the same year. By accommodating them in the Provisional Admission Program originally created to serve minimally eligible students, the impetus for CAP was created. With the emergence of CAP, special transfer access for certain freshman applicants not selected for fall or summer admission to UT Austin became common practice and continues today. CAP is a conditional guarantee program offering transfer admission to students displaced by the TTP law.

It has grown into a viable transfer route for non-TTP students seeking a second opportunity for entry to the UT flagship university. The invited applicant signs a CAP

contract and chooses a sister UT institution if he or she wished to participate. In spite of attempts to manage the number of CAP students transferring to the University by strengthening the GPA and course requirements (e.g. GPA raised from a 3.0 to 3.2) for the 2004 fall transfer class, the program continued to exhibit substantial growth. Since its inception, CAP offers have risen from 182 to over 11 times (2,012) that amount in 2008. Contract offers peaked in 2003 and comprised 49% of the transfer fall cohort. Currently, students who complete and return the CAP contract agree to complete 30 semester credit hours of prescribed coursework with a minimum grade point average of 3.2 (see chapter five, p. 79). Students submitting a contract must attend a participating UT System institution and be eligible for admission at the sister campus. With the tremendous growth of CAP, university administrators agreed to review the requirements if the CAP transfer population exceeded 75% (Report of the Second Task Force on Enrollment Strategy, 2009). By the university's account, CAP "is the university's current effort to avoid permanently 'closing the door' on any Texas resident" (Office of Admission, 2010, p. 1). What remains unclear is the calculus for reducing the number of state residents who are transfer students, but who are in danger of seeing their one route to the university narrowed.

Next, chapter five provides the qualitative findings of the mixed method study. The chapter begins with a matrix depicting key judicial rulings, policies, and practices emerging in admission. The second major section of the qualitative findings is comprised of the interviews of several key university administrators.

Chapter Five: Qualitative Findings

Introduction

Chapter five presents the results of the qualitative findings. It consists of two sections: (a) the archival review and analysis of admission policy and practice, and (b) the analysis of several administrators' perspectives transfer admission and the value of transfer students. Together, these findings address the first research question.

Results for Research Question 1: How did transfer admission criteria change from the mid-1990s to 2007?

Document review. An archival review of admission policies published in The General Information Catalogues from academic years 1990-1991 to 2007-2008 provides an historical perspective at The University of Texas at Austin. Other documents cited are newspaper articles and institutional reports. The extensive document review identifies changes in transfer admission policies and programs over time and provides more meaningful interpretation of the quantitative findings associated with this study. Moreover, it demonstrates the acutely symbiotic nature of freshman and transfer admission at the state's largest, flagship university.

Significant events in first-year student and transfer admissions mid-1990s - 2007. Over time, first-year and transfer admission requirements and student selection process have changed dramatically. Table 3 represents an undergraduate admissions matrix detailing significant changes in freshman and transfer student admission policies, practices, and programs at The University of Texas at Austin. In general, the catalysts for these directives were institutional action, a legislative mandate or judicial ruling.

Table 3

Significant Events in Freshman and Transfer Student Admissions Mid-1990s -2007

Year	First-year student admission	Transfer student admission
Prior to 1996	Scaled admission model using affirmative action	Rolling admission for transfer students/statement of purpose (optional)
1996	*Hopwood v. Texas* (March 1996) Holistic review initiated w/out racial consideration	
1997	Top Ten Percent law enacted Holistic admission with 3 essays required for non TTP applicants $200 enrollment deposit initiated (summer 1997)	
2000	Provisional Admission Program ends (est.1962) CAP is proposed to UT Board of Regents Moratorium for spring first-year student admission	Moratorium for spring transfer admission
2001	TX residents offered summer admission due to the high demand for fall seats	Conditional Admission Program (CAP) begins
2002	Campus enrollment exceeds 52,000	First cohort of CAP transfer enrollees arrive (N=182)
2003	Race conscious admission policy allowed (*Grutter v. Bollinger)*	6,000 CAP offers
2004	University delays using race as a factor	CAP requirements strengthened for Fall 2005-06 cohort
2005	Holistic review begins for first-year student admission w/racial consideration	Rolling admission end in spring, batch holistic reviews begin essay and statement of purpose required
2006 to Present		Review CAP if it exceeds 60% of total transfer admission

Sources: General Information 1990-2007).

Prior to 1996, the Office of Admissions considered test scores, rigor of coursework, class rank, and special accomplishments in their selection of a first-year undergraduate class. Collectively, this process was termed a classic admission model that heavily weighted academic merit. This model delineated its admission requirements using a graduated scale whereby students ranked in the top 15% of their class were required to have a minimum test score on the SAT or ACT for entrance while the all other applicants underwent a review by admission evaluators (Yoshura, 2009).

This classic admission model used race as a factor for admission until the *Hopwood v. Texas* (1996) Fifth Circuit Court of Appeals decision. This ruling ended race-based affirmative action in admission at all public state colleges and universities in Texas. The state's response to *Hopwood* was the passage of H.B.588 by the 75th Texas Legislature. It represents a historic political attempt to keep the state's largest and most competitive universities accessible to top performing students from every public school accredited by the Texas Education Agency. The Top 10% Law (TTP) is a rank-based admission policy that serves as the sole determinant for automatic admission. Texas high school students ranked in the top 10% of their graduating class are guaranteed admission to their choice of the state's public undergraduate institutions including the two flagship universities: Texas A&M University and The University of Texas at Austin.

After 1997, the University initiated an individual, holistic review for all non-TTP applicants. Individual holistic review, contrary to the TTP Law, is based on the premise that no one factor alone will assure admission. It takes into consideration who "might

contribute to or benefit from, the rich, diverse, and challenging educational environment of the University" ("Proposal to Consider", 2004, p. 23). This process first begins with the calculation of the academic index (AI) and a personal achievement index (PAI) where non-academic criteria can be evaluated. The PAI includes consideration of an applicant's socioeconomic status, parent education level, and work experience among other factors.

Beyond the holistic review, the University required three essays that freshman admission evaluators used to learn more about the applicant's background. A $200 enrollment deposit was initiated to lessen the ambiguity of the first-year class size. The deposit was required the summer prior to a student's fall enrollment. As one admission professional stated, the loss of race-based admission, the new implementation of the TTP law and the initiation of three required essays and a $200 enrollment deposit created a "perfect storm" which resulted in a drop in first-year freshman applications and enrollment for fall 1997 (Yoshura, 2009).

Over time, the transparency and guarantee of the TTP law drew a record number of first-year matriculates to the University ("Record enrollment", 2002). Campus enrollment grew to 49,902 in the fall of 1999. According to the *Daily Texan*, the tremendous growth and popularity of the University led to unprecedented actions to better manage enrollment by 2000. "We're losing control . . . " a University administrator confessed (Mayer, 2001). One example of this loss of control was the Provisional Admission Program extending 4,000 offers to student of conditional admission in its last year of operation (Office of Admissions, 2009). The 905 students

who successfully completed the summer provisional program requirements were offered fall admission in 2001.

As a result of the unprecedented growth, the university's executive leadership proposed a three-tier admission policy: fall admission, a summer enrollment plan, and an off-site provisional admission program ("Proposal to Control", 2000). Fall admission continued to be extended to Top 10% students guaranteed admission and to those non-Top 10% students with the highest holistic scores in the pool of applicants. Summer admission was offered to a second-tier of students based on their holistic admission scores and, finally, the off-site provisional program (i.e., the predecessor to CAP) was offered to the third-tier of admissible students.

Furthermore, university leadership proposed "redefining the Provisional Admission Program," which originally represented a program designed to expand access to minimally eligible first-year students to one better equipped to handle admissible students whose "sense of pride and accomplishment" were expressing dismay by participating in a "bridge" program (p. 794). Hence, programmatic changes were proposed for mainly two purposes: (a) to seek relief from a growing admissible applicant population not admitted to the traditional fall semester, and (b) to change the focus of the summer program to handle admissible freshman applicants not qualified for automatic admission, but typically not like the previous PAP enrollees ("Proposal to Control", 2000, p. 793). In 2000, the proposal for a Conditional Admission Program (CAP) was approved by the University of Texas System Administration Board of Regents, and the 47-year old provisional admission program was eliminated (Lavergne,

Washington, & Walker, 2003). With enrollment pressure still high, the University made a rare decision to enact a moratorium on spring undergraduate admission in 2001 while simultaneously extending over 2,000 conditional admission contracts to non-TTP first-year applicants under the Coordinated Admission Program. Upon successfully fulfilling the CAP contract requirements, guaranteed transfer admission was extended to these students for fall 2002.

As outlined in Table 4, CAP initiated offers to admissible Texas residents who completed their application by the stated deadline, but were not offered fall or summer admission. For years 2001–2004, the CAP contact for conditional admission stipulated that a student must complete 30 semester hours of coursework with a 3.0 GPA at a participating UT System institution. Until 2005, students were guaranteed admission into the College of Liberal Arts or the College of Natural Sciences. However, CAP students wishing to be admitted to programs with restricted enrollment in a Liberal Arts or Natural Sciences program or to a program in another college or school competed for admission with the entire pool of transfer students.

Students who do not fulfill the CAP requirements were not provided with guaranteed admission to UT Austin. They can and do, however, apply to UT Austin and compete with the traditional transfer pool. Over the years, the number of CAP offers as well as the number of CAP students who have successfully fulfilled the program's contracts has grown exponentially. In 2005-2006, a review and strengthening of CAP requirements was initiated to better manage CAP transfer enrollment at the university. As a result, contract requirements were toughened for the prospective fall transfer class

of 2005(Office of Admissions, 2008). Although students offered CAP did not need to apply to the UT System component institution, after 2005, they were required to meet the admission requirements of the institution they wished to attend before being considered for UT Austin.

Table 4

CAP Requirements for Guaranteed Transfer Admission (2001-2008)

Years	GPA requirements	Subject requirements
2001-2004	3.0	1. Complete at least thirty semester hours of transferable coursework in residence at the UT System component institution at which he or she enrolls 2. Have a cumulative grade point average of at least 3.00 upon completion of those hours 3. Complete requirements 1 and 2 by July 1 of the academic in which the student was offered CAP.
2005-Present	3.2	1. Complete at least thirty hours of approved coursework with a grade point average of at least 3.20 in residence during the fall and spring semesters at the UT System component institution at which he or she enrolls 2. Complete at least one mathematics course from a list of approved courses as part of the required thirty hours 3. Complete requirements 1 and 2 by June 1, of the academic year accepted into CAP.

Source: General Catalogue 2004-2005 retrieved on November 30, 2009 at http://www.utexas.edu/student/registrar/catalogs/gi04-05/ch2/ch2a.html.

In 2000, CAP was implemented and the University became the largest university in the nation, with 52,273 students. During this same year, the summer semester became a second entryway for first-year students who were not admitted for the fall semester (Hale, 2002).

Grutter decision. On June 23, 2003, Grutter v. Bollinger was decided by the U.S. Supreme Court. The case involved Caucasian applicants who alleged the University of Michigan Law School used ethnicity and race unconstitutionally in their admission practices. They argued the university used these characteristics as prominent admission factors and thus, violated the Equal Protection Clause of the Fourteenth Amendment and Title VI of the Civil Rights Act of 1964. The Court upheld the use of ethnicity and race in a narrowly tailored fashion to "further a compelling interest in obtaining the educational benefits that flow from a diverse student body." According to a UT Austin administrator, the University cautiously waited 1 year after the ruling to implement a race-sensitive holistic review process for non-TTP undergraduate applications (McKinney, 2009).

Transfer admission experienced little change in its policies and procedures prior to 2000. Students were admitted based on their academic background (GPA, academic rigor) and special accomplishments. Writing a personal statement was an optional exercise and, according to admission staff, meeting the minimum admissible GPA was essentially the greatest predictor for admission (McDaniels, 2008). A minimum number of transfer credits were not necessary and each application was evaluated individually, characteristic of a rolling admission process. In 2001-2002, transfer applicants were

mandated to complete at least 24 semester hours (SCHs) of transferable credit to gain admission.

By 2005, students applying for transfer admission had several new requirements: an essay, a statement of purpose, and the completion of 30 SCHs of transferable credit. Most significantly, the fall transfer admission cycle was now a more competitive review where applicants were ranked against each other and not evaluated individually, but batched for a more competitive evaluation process.

In 2006, a university commission agreed to monitor and control CAP growth and proceed with a formal reexamination of the program if CAP admission guarantees exceeded 60% of the total transfer admission target (Office of the General Faculty, 2005). With the emergence of the Top 10% Law, CAP, and a steady demand for freshman and transfer admission, UT Austin created a complex, multi-level, multi-semester admission process where first-year top 10% ranked students swelled to 80% of the freshman class and led to a cascading of admissible non-top 10% to CAP. The development and exponential growth of CAP is one effort to afford greater access to the university to this group of admissible students.

Interviews. The next section provides a summary of the interviews that took place with university administrators in 2008 and 2009. The interviews were semi-structured in format and were 1.5-3 hours in length. All participants received pseudonyms to protect their identity. The major themes that emerged were the decline of a community college recruitment program, the elimination of minority transfer grants, and reflections on the value of community college transfer students.

Once upon a time: The existence of a transfer recruitment program. The extent of transfer recruitment at The University of Texas at Austin changed dramatically during the last 20 years. In 1981, a comprehensive community college recruitment program was created and coordinated by the university's admissions office. The program targeted 2-year public colleges in Texas. Yoshura recalled,

> . . . once upon a time we had a [transfer recruitment] program in place. As a matter of fact, we . . . identified ten community colleges where we spent a lot of time and energy . . . going to those schools, sitting down in the cafeteria or the student activity center and trying to encourage those students to attend UT.

Similarly, McDaniels identified several components of the recruitment program including a targeted letter campaign and campus visitation programs. According to McDaniels, the transfer recruitment program began in 1981 and included two financial enticements: the minority transfer achievement award (MTAA) and the minority transfer opportunity award (MTOG). According to McDaniels, the MTAA was awarded to students who were academically competitive while the MTOG was based on high financial need and other factors. "The awards were $2,000 per year for two years," explained McDaniels, "with an option of a third year for the student who met specific academic requirements." A Junior Community College Counselor Conference was also created and still occurs today, albeit on a smaller scale. Yoshura explained,

> So, that was once upon a time . . . now . . . especially the last 10, 11 years, the emphasis has changed a little where we don't spend nearly the time in these schools, any of them, as we did then and a lot of it has been a direct result of all the time and energy we spend on freshman . . . that I know has happened because I have been a part of it, I participated in it, when it was at its high point.

The participants' descriptions and recollections of the transfer recruitment program served as qualitative evidence of the changing value of the community college transfer student. According to the interview participants, the scaling back of transfer recruitment efforts and financial aid opportunities and the implementation of the automatic admission law occurred simultaneously.

Today, university recruitment of transfer students is primarily the facilitation of the Coordinated Admission Program. The narrow focus of the university on non-top 10% students opting to participate in CAP and vie for a guaranteed transfer slot dependent on whether they successfully complete the terms of the CAP contract has resulted in limited recruitment and admission access to traditional transfer students from non-CAP feeder routes. As a result, community college recruitment, articulation agreements, and targeted mailings are not emphasized. The general assumption is "as the number of CAP [students] grow, the traditional transfer [student population] will decrease equitably," explains Garcia.

It Doesn't Compare: Lack of Transfer Scholarships and Grants

When the interviews moved to questions about student financial aid, each respondent had difficulty identifying transfer student grants and scholarships, perhaps because after the *Hopwood* ruling, there was no one transfer student award that served as the equivalent to any first-year student scholarship or grant at the university. Prior to *Hopwood*, the minority transfer opportunity grant (MTOG) and the Minority Transfer Achievement Award (MTAA) were common awards. According to McDaniels, "The

awards were $2,000 per year for 2 years, with an option of a third year for the student who met specific academic requirements."

When asked if the amount of scholarships and grants available to transfer students compared to those offered to first-time freshmen, Yoshura quipped, "It doesn't compare. Unlike 10 years ago, 15 years ago, when we really had some very interesting transfer [student] scholarships out there . . . " now transfer students compete with native university students for the continuing student scholarship, confides Yoshura.

"After *Hopwood*, all that changed . . . "the Minority Transfer Opportunity Grants (MTOGS) went away and nothing replaced them to my knowledge" (Rosenthal, 2009). "When *Hopwood* came, both the MTAA and MTOG awards went away as well as [the] direct mail program," shares McDaniels. Prior to 1998, the university purchased student information from the College Board to recruit for their transfer student class. The students of interest were ethnic minority students with an outstanding academic record, explains McDaniels.

After the passage of the Top 10% Law, the type and number of freshman applicants changed rapidly and served as the catalyst for the development of a new, transfer program. The Coordinated Admission Program (CAP) was specifically crafted as a default route to non-top 10% applicants who were admissible, but whose numbers exceeded the capacity of the university. In 2000-2001, the university admitted and enrolled more students than it could adequately accommodate. Meanwhile, the admission criteria moved from "one born in GPA" to a holistic admission process implemented in 2000, explains McDaniels.

After race-based minority scholarship awards were eliminated due to threat of lawsuit, the university tried to duplicate the Longhorn Opportunity Scholarships (LOS) on the transfer student population by requesting that these students be identified by their community college. The Longhorn Opportunity Scholarship is a non-race based scholarship awarded to selected freshmen from underserved high schools with a quantifiable history of underrepresentation at UT Austin. Selected students receive $5,000 in scholarship money for 4 years contingent on the student making satisfactory academic progress. At the local high schools, university admission counselors are given access to students fitting the top 10% profile. The LOS transfer student scholarship program "never materialized because it didn't have the same [success with using] identifiable methods" (Yoshura, 2008). The university chose "colleges close to LOS schools, [but] never got many applications" (Yoshura, 2008).

According to McDaniels, one explanation for its failure is that the relationship between the community college counselor and his or her transfer student population did not seem to be close where the counselor could "identify high ability students in time for the [transfer scholarship] deadline" (2008). An unanswered question was who has the closest relationship with a community college transfer student? Who is best equipped to provide adequate counseling and guidance for a successful transition to a 4-year university? In a concluding remark, Yoshura suggested, "I think we didn't market it hard enough." Next, the interviewees identified how and when transfer recruitment seemed to be less of a priority.

They've taken a back seat: Reflections on the value of community college transfer students. Transfer students are so diverse that they are hard to identify in a single student profile as some are older, married, and working, others are in their late-twenties and independent, and still others are younger and dependent upon their parents. They are any student and every student. Garcia reveals, "*We* have to come to terms with what is important to us. *We* are interested in students who have taken advantage of what is available to them . . . [and who] . . . have some sense of where they are headed."

McDaniels (2008) confided, "*I* don't necessarily believe the minorities in community colleges migrate out of those areas." The Texas Higher Education Coordinating Board (2006) did not have research on minority transfer rates, but did find transfer rates in Texas overall are quite dismal. The Board found that "among the 17,784 students awarded an academic associate degree in 2005, a mere one-fourth applied to a public 4-year public institution. Among 491,439 2-year students earning 30 plus semester credit hours, but not receiving a 2-year degree, only 4% or 20,031 students applied to a public university. This low rate has remained unchanged since 2000. Moreover, there seemed to be a reduced interest in community college transfer access by the institution as was evident in Rosenthal's (2009) acknowledgement that,

> . . . the decision was to embrace the freshmen at the expense of the transfer student. It seems like we shifted the problem of top 10% to the transfer arena because we haven't grown the transfer admit spots. So, when you stop and think about the big picture, lots of things have caused changes to take place for the transfer, most notably, in the recent years has been the CAP program, just too many [students].

When asked if the university values transfer students, the responses seemed to evoke a personal response as well as an institutional response. Rosenthal (2009) reflected,

> No . . . *I* think *we* do. *I* think [transfer students] have taken a second . . . they've taken a backseat to the freshman pressures we face at the university. *I* think *we* have to build in some capacity for them if *we* are going to take a different approach to transfers. But, *I* think the *university* has had to make a decision to grow one group or to allow one group to continue to grow i.e. freshman at the expense of the transfer student.

Moreover, Yoshura (2008) confided, "The average GPA of transfer students [is] continuing to rise and faculty are feeling more comfortable. *I* think [transfer students] are competitive and worthy."

In spite of the view that transfer students are valuable and necessary to diversify the student body, there is intense competition among students vying for non-CAP transfer slots. "*We* have students sitting where you're sitting and cry because they didn't take the CAP offer, and find that they didn't get in as a traditional transfer student in the competition for that pool," shared Garcia (2009). "*UT Austin* needs to decide if *we* grow or not."

Chapter Six: Descriptive Statistics and Quantitative Findings

This chapter contains the descriptive statistics and the results of the logistic regressions. It specifically addresses research questions 2 and 3, which ask: Is there a difference in admission between a community college transfer applicant and other transfer applicant? And, what specific factors affect transfer admission?

Three series of three sequential logistic regression models were used to address each question posed. In each case, odds ratios, which are a measure of effect size, are analyzed to identify statistically significant associations between admission and an explanatory binary variable (Osborne, 2006; Pampel, 2000). To create the series of sequential logistic regression models, dummy variables for 1998 and 2007 were created from the categorical variable, year, where 1 represents the year of interest and 0 represents the reference year (e.g. 2002). The year 2002 was chosen for comparison as it signified the first year CAP students enrolled at the university. CAP is a conditional transfer admission program offered to admissible first-year freshman applicants not selected for fall admission. CAP was created as a result of exponential growth among top 10% applicants who are guaranteed admission through the state's Top 10% Law. The logistic regression models identified if transfer route, year, ethnic group, and gender are factors in transfer admission.

The sequence of the models used for the logistic regressions were: (a) all years, (b) 1998 to the reference year, and (c) 2007 to the reference year. The years 1998 and 2007 represented two distinct and important periods. The year 1998 represents a period

of time preceding the implementation of the Coordination Admission Program (CAP) and year 2007 represents post- implementation of CAP. Extant data for years 1998, 2002, and 2007 were requested from The University of Texas at Austin. A master file of 8,762 cleaned and coded student records was used to address research questions 2 and 3. As all the records were complete with no missing variables, there was no sampling or weighting of data. Before the models are introduced and the findings are explained, descriptive statistics on the three datasets are provided.

Overview of Datasets and Variables

Each student record included in this study contained data on the following: year applied, last college attended, ethnicity and gender. GPA and transferrable credit hours were two existing continuous variables also included. As the central purpose of the study was to examine differences in admission from the major transfer routes within the state, the last college identified by the transfer applicant under an existing variable named "last college" and was used to develop a new variable titled "Tx Inst_2." The Tx Inst_2 variable was populated with numeric codes representative of the different routes identified such as public 2-year college or private 4-year university. Using crosstabs, the new numeric variable was checked for accuracy against the old alpha variable. The four distinct dummy variables were coded to represent: a community college applicant, a 4-year public university transfer applicant, a 4-year private university transfer applicant, and a CAP applicant.

Each variable included in the quantitative analyses is displayed in the subsequent tables. Specifically, the frequency and percentage or mean and standard deviation of

each variable by year are documented to provide the reader with knowledge of the changes between 1998, 2002, and 2007.

Descriptive statistics for the 1998 dataset. As displayed in Table 5, over half of the 3,009 transfer applicants in this subsample were admitted. In terms of proportionality, applications from males and females were equal in percentage. Caucasians represented 70% of the applicant pool. Latinos had the second highest percentage of applications followed by Asian Americans and African Americans. Together, the ethnic minority groups represented 30% of the applicant pool. When examining feeder patterns, over 61% of the applicants came from public community colleges, while 4-year college transfer applicants comprised less than 40% of the sample. CAP applicants were not captured because the program did not exist until 2001. In Table 6, the mean credit hours and GPA for the sample are provided. Transferable credit hours averaged 50.4 while the standard deviation was 28.7. The average GPA calculated for this dataset was 3.07 and the standard deviation was .52. Both statistics recorded a relatively high range of variability.

Table 5

1998 Sample Frequencies

Categorical Variable	Frequency	Percentage of Total
Fall 1998 Dataset (n=3,009)		
Admitted	1,655	55.0%
Denied	1,354	45.0%
Female	1,503	50.0%
Male	1,506	50.0%
Caucasian	2,106	70.0%
Latino/a	549	18.2%
African American	88	3.0%
Asian American	266	8.8%
Public Community College	1,849	61.4%
Public 4-Yr University	927	30.8%
Private 4-Year University	233	7.7%

Table 6

Descriptive Statistics for Transferrable Credit Hours and G.P.A

Continuous Variable	Mean	Min	Max	Standard Deviation
Transferrable Credit Hours	50.4	0.0	215.0	28.7
G.P.A.	3.07	.75	4.00	.52

Descriptive statistics for 2002 dataset. Table 7 reveals there were 2,978 transfer student records in the 2002 sample. This dataset was chosen as the reference for the year-to-year comparisons in the series of sequential logistic regression models. The percentage of applicants admitted was 54.4%. Females represented over 52% of the

applicant pool with 1,559 students while males represented 47.6% or slightly over 1,400 students. Nearly two thirds of the transfer class was comprised of Caucasian students while Latino/as and African Americans combined represented slightly over 25% and Asian Americans comprised 11.3% of the transfer sample population. Of the 2,978 applicants, more than half came from a public community college while students from public and private 4-year universities combined represented 39% of this sample.

The first cohort of Coordinated Admission Program (CAP) applicants appeared in the 2002 dataset. CAP applicants represented less than 8% of the sample, but almost equaled the 8.5% of applicants from private 4-year universities. The CAP applicants in this dataset included those who were automatically guaranteed admission and those who did not satisfy the terms of the CAP contract and were seeking acceptance through the traditional transfer admission process.

Table 7

2002 Sample Frequencies

Categorical Variable	Frequency	Percentage of Total
Fall 2002 Dataset (n = 2,978)		
Admitted		
	1,620	54.4%
Denied	1,358	45.6%
Female	1,559	52.4%
Male	1,419	47.6%
Caucasian	1,899	63.8%
Latino/a	683	22.9%
African American	104	3.5%
Asian American	337	11.3%
Public Community College	1,584	53.2%
Public 4-Yr University	908	30.5%
Private 4-Year University	254	8.5%
CAP	232	7.8%
Total	2,978	100.0%

Table 8 reveals that the mean number of transfer credit hours was 47.3 with a standard deviation of 28.3 while the average GPA was 3.24 with a standard deviation of .50. Both statistics indicated a relatively high rate of variability.

Table 8

Descriptive Statistics for Transferrable Credit Hours and G.P.A

Continuous Variable	Mean	Min	Max	Standard Deviation
Transferrable Credit Hours	47.30	3.00	211.00	28.30
G.P.A.	3.24	.61	4.00	.50

Descriptive statistics for the 2007 dataset. In 2007, there were 2,775 transfer applicants of whom nearly 70% were admitted as transfer students (see Table 9). The high admit rate was over double the number of those who were denied. Females represented the majority group in the 2007 sample and accounted for140 more additional applications than males. The ethnic breakdown of the applicant pool consisted of 59% Caucasian, 21% Latino, 5% African American, and 15% Asian American.

Table 9 reveals there was no clear majority of applicants coming from community colleges as in years past, but the public 2-year colleges still continued to be the dominant route. In comparison to the 1998 and 2002 datasets, the number of applications from CAP students surpassed applications from students who attended 4-year public universities. It is the second largest applicant group and represented over a quarter of the applicant population. Applicants whose last college attended was a 4-year university equaled 885, representing 32% of the sample. Table 10 reveals that 53.3 mean transferrable credit hours with a standard deviation 29.4. The average GPA was 3.39 and standard deviation .434. As in past tables, the credit hours had a high rate of variability, but the range of GPAs were more closely dispersed than in prior years included in the study.

Table 9

2007 Sample Frequencies

Variable	Frequency	Percentage
Fall 2007 Dataset (n= 2,775)		
Admitted	1,920	69.2%
Denied	855	30.8%
Female	1,360	49.0%
Male	1,415	51.0%
Caucasian	1,630	59.0%
Latino/a	578	21.0%
African American	132	5.0%
Asian American	435	16.0%
Public Community College	1,130	40.7%
4-Yr Public University	700	25.2%
4-Yr Private University	185	6.7%
CAP	760	27.4%
Total	2775	100.0%

Table 10

Descriptive Statistics for Transferrable Credit Hours and G.P.A

Continuous Variable	Mean	Min	Max	Standard Deviation
Transferrable Credit Hours	53.3	7.0	242.0	29.4
G.P.A.	3.39	1.43	4.00	.434

Explanation of the Sequential Regression Model

Table 11 outlines the sequential logistic regression models constructed to demonstrate which variables accounted for transfer admission. Statistically significant differences between the reference year and either 1998 or 2007 provide empirical evidence of changes over time. In every model, transfer GPA is included. It serves as the continuous variable held constant at its average for the specific group studied. Unless stated, 2002 is the reference year. As indicated previously, it is used as a reference because it represents the first year CAP students began transferring to UT Austin and signifies a major change in transfer admission policy as discussed in Chapter five. Community college applicants were the reference group when comparisons between transfer routes to UT Austin were analyzed because community college students represented the largest group of transfer applicants. In the case of the variables selected for this study, there were no missing cases for any of the student records. All applicants recorded an institutional route (i.e., transfer route) An explanatory dummy variable was introduced in the series of logistic regressions to determine if there were differences in admission based on an applicant's transfer route (e.g., public 4-year university, private 4-year university, CAP, Community college).

Next, dummy variables for specific ethnic groups were added as explanatory variables to the model. Latino/a, African American, and Asian American were included in the model while Caucasian (non-Latino/a) served as the reference group. A gender dummy variable was created with male serving as the reference.

Table 11

Breakdown of Models by Level, Explanatory Variables and References

Table (Model)	Continuous explanatory variable	Dichotomous explanatory variables (coded 1)	Reference Groups (coded 0)
Appendix C	Transfer GPA	All years combined	None
		1998	2002
		2007	2002
12-14	Transfer GPA	Public U, Private U, CAP, all years combined	Community college
		Public U, Private U, 1998	Community college, 2002
		Public U, Private U, CAP, 2007	Community college, 2002
15-16	Transfer GPA	Latino/a, African American, Asian American, all years	Caucasian
		Latino/a, African American, Asian American, 1998	Caucasian, 2002
		Latino/a, African American, Asian American, 1998	Caucasian, 2002
Not included	Transfer GPA	Female, all years combined	Male
		Female, 1998	Male, 2002
		Female, 2007	Male, 2002

There were a total of 13 logit models created, but tables were included for only those models where at least one variable recorded significance. Explanations for models with non-significant variables are included without referencing tables. As an exception, the gender models found only GPA and year were significant, but not gender. In these instances, to avoid redundancy associated with the explanation of these dummy variables analyzed in previous models, no tables were created. The statistical significance level was set at $\alpha<0.05$ for all statistical tests. To ensure a stable model, odds ratios are reported at 95% confidence intervals (CI). These parameters were put in place to create models that minimized the presence of large standard errors and the

presence of poor confidence in the reporting of odds ratios. Models 1-3 can be found in Appendix B. In these tables, the continuous explanatory variable, GPA represents the baseline model. It is statistically significant for all models at the $p<.01$ level as would be expected from a weighted admission criterion. It serves as a control variable for all models presented.

Results for Research Question 2: Is there a difference in admission between a community college transfer applicant and other transfer applicants being admitted?

To reiterate, the central focus of this study is to ascertain whether transfer route to the university matters. Specifically, research question 2 asks: Is there a difference in rates of admission for community college transfer students and other transfer applicants.

Sequential logistic regression models for transfer admission by institutional route and year.

Results for all years. Table 12 shows a transfer applicant's odds ratio of admission as determined by his or her transfer route. Holding transfer GPA constant, this model found all transfer routes were statistically significant at $p<.05$ for the three years of data combined. The logistic model indicated the CAP students had 2.4 times more opportunities to be admitted than students who last attended a public 2-year college. Transfer applicants from both public and private 4-year institutions had less opportunity for admission than community college applicants. The inverse calculation for the odds ratios indicated that community college applicants were 1.16 times as likely to be admitted as public 4-year university applicants and 1.25 times as likely to be admitted as

private university applicants to UT Austin. The model predicted CAP students were most likely to be admitted to the university followed by community colleges students and public university students. Private university applicants had the least opportunity to be admitted.

The Negelkerke R^2 shows that 55.6% of the variation in admissions was explained by this model. Under the observed/predicted column, there is evidence that the model predicts 83.7% of the cases correctly indicating a moderate high level of reliability. This model contains 1998, 2002, and 2007 student records and all transfer routes, however 1998 records did not contain CAP applicants because the program did not exist at that time. Next, student level records are teased out by year to examine within-year differences in transfer admission rates by institutional feeder route.

Table 12

Logistic Regression Model: Admission by Institutional Route (All years combined)

Variable	B	S.E.	Wald	df	Sig.	Exp(B)
Tr_GPA	4.351	.094	2153.000	1	.000	77.544
Public U	-.145	.067	4.756	1	.029	.865*
Private U	-.221	.111	3.983	1	.046	.802*
CAP	.893	.111	64.777	1	.000	2.444***
Constant	-13.555	.300	2038.570	1	.000	.000
Model statistics						
Observed/predicted			Cox & Snell R^2		Negelkerke R^2	
83.7%			.412		.556	

Note. Significance of odds ratios: * p<.05, **<.01, ***<.001.
n= 8,762

Results for 1998. The model (Table 13) predicted that the odds ratio of transfer admission in 1998 was statistically significant in comparison to the reference group, 2002 applicants. When examining differences between years, the model calculated 1998 transfer applicants were 2.33 times as likely to be admitted as applicants in 2002. Both 4-year public and private university applicants had a lower opportunity for admission than 2-year public college students ($p<.05$). Using the reverse odds calculation, community college applicants were 1.37 times as likely as 4-year public university applicants to be admitted and were 1.46 times as likely as 4-year private university applicants to gain admission.

Among the three available routes for transfer admission, public 2-year college applicants had the highest opportunity of admission. CAP applicants were not included in this model, as the program did not exist in 1998. However, the inability to control for the presence of CAP in the reference dataset (2002) may explain the high odds ratio associated with transfer GPA not predicted in other similar models.

The model predicted 82.6% of the admission outcomes accurately. The Negelkerke R^2 statistic approached 53%, indicative of a seemingly strong association between admission and applicant feeder patterns indicating that the model explained a moderate level of admission decisions. Given these statistics, this model was fairly reliable in its ability to predict which route seemed to provide the most opportunity for admission.

Table 13

Logistic Regression Model: Admission by Transfer Route (1998 Compared to Reference Year)

Variable	B	S.E.	Wald	Df	Sig.	Exp(B)
Tr_GPA	4.754***	.102	2182.288	1	.000	116.018
Yr 1998	.849***	.067	159.574	1	.000	2.337
Public U	-.319***	.066	23.488	1	.000	.727
Private U	-.378**	.111	11.568	1	.001	.685
CAP	N/A	N/A	N/A	N/A	N/A	N/A
Constant	-14.977	.333	2021.356	1	.000	.000
Model statistics						
Observed/predicted			Cox & Snell R^2			Negelkerke R^2
82.6%			.395			.530

Notes. Significance of odds ratios: * p<.05, **<.01, ***<.001.
n =5,987

Results for 2007. In this model, the Coordinated Admission Program (CAP) variable was included to the logistic model (Table 14). This model calculated the strongest association between admission and the CAP. Other routes included did not factor significantly into the admission decision. Both year and the CAP route had a statistically significant effect on transfer admission as suggested by this model. Holding the average GPA constant, the fall 2007 applicants were 1.423 times as likely as fall 2002 applicants to gain admission. CAP applicants had 3.25 times greater opportunity for admission than community college applicants with all else being equal. In comparison to public 2-year applicants, the public and private 4-year transfer routes did not predict significantly different admission rates.

The model was highly accurate and classified 83.9% of the admission outcomes correctly, which was similar to the other models calculating odds ratios for transfer

routes. The Nagelkerke R^2 statistic explained 55.2% of the proportion of variance. This result may be due to the university increasing the GPA requirement for guaranteed admission in 2005 for CAP students.

Table 14

Logistic Regression Model: Admission by Transfer Route (2007 to Reference Year)

Variable	B	S.E.	Wald	Df	Sig.	Exp(B)
Tr_GPA	4.547***	.124	1348.934	1	.000	94.307
Yr 2007	.218*	.075	8.490	1	.004	1.423
Public U	-.033	.137	.056	1	.813	.968
Private U	-.062	.221	.078	1	.780	.940
CAP	1.178***	.119	97.393	1	.000	3.249
Constant	-14.610	.408	1284.092	1	.000	.000
Model statistics						
Observed/predicted				Cox & Snell R^2		Negelkerke R^2
83.9%				.407		.552

Notes. Significance of odds ratios: * p<.05, **<.01, ***<.001
n= 5,753.

Results for Research Question 3: What specific factors affected transfer admission?

Two models were introduced to address if student background factors resulted in more opportunity for admission. Again, the sequence of models introduced was all years combined, 1998, and 2007. The first model included dummy variables for ethnicity. The specific ethnic groups added were: Latino/a, African American, and Asian American. In the last series of models, there was an examination of gender. The reference group for ethnicity was Caucasian and the reference group for gender was male.

Sequential logistic regression models for transfer admission by ethnicity and year.

All years. Table 15 shows that ethnicity was positively associated with transfer admission for one group. Asian Americans were 1.27 times as likely as Caucasians to be admitted ($p<.05$) level. Applicants identifying as Latino/a or African American had no statistically significant difference in their odds of admission in comparison to Caucasian applicants. The model correctly predicted 83.8% of the admission outcomes resulting in a fairly accurate model. The Nagelkerke R^2 statistic explained 54.9% of the variance associated with the model. Overall, the model for ethnicity predicted little in terms of admission decisions, thus rendering student background characteristics weak in predictive power for admissions. That said, the Asian American population was a significant and positive factor in transfer admission decisions similar to other admission studies (Bunzel & Au, 1987).

Table 15
Logistic Regression Model: Admission by Ethnicity (All Years)

Variable	B	S.E.	Wald	Df	Sig.	Exp(B)
Tr_GPA	4.384***	.094	2187.229	1	.000	80.136
Latino/a	-.107	.074	2.094	1	.148	.898
African American	-.235	.153	2.351	1	.125	.790
Asian American	.240*	.120	6.413	1	.011	1.271
Constant	-13.633	.301	2049.855	1	.000	.000
Model statistics						
Observed/predicted			Cox & Snell R^2		Negelkerke R^2	
83.8%			.407		.549	

Notes. Significance of odds ratios: * p<.05, **<.01, ***<.001
n=8,762

Results for 1998. Table 16 details if ethnicity and year are significantly associated with transfer admission to UT Austin. Findings show the year 1998 was positive and significant. Applicants in 1998 were 2.6 times as likely as transfer applicants for 2002 to gain admission, thus indicating a more lax admission evaluation or the capacity to accept a larger number of students than in 2002. The variable, Asian American, approached significance with a p = .066. At this borderline significance level, this group was 1.25 times as likely as Caucasian applicants in 2002 to be admitted. Latinos and African Americans did not differ from the reference group in their respective admission rates. The model predicted 84.4% of the cases correctly and the Negelkerke R^2 was .556, indicative of the model's moderately strong explanatory power.

Table 16
Logistic Regression Model: Admission by *Ethnicity (1998 to Reference Year)*

Variable	B	S.E.	Wald	df	Sig.	Exp(B)
Tr_GPA	4.516***	.117	1501.513	1	.000	91.513
Yr 1998	.969***	.075	165.661	1	.000	2.636
Latino	-.133	.090	2.191	1	.139	.875
African American	-.323	.201	2.582	1	.108	.724
Asian American	.220	.120	3.376	1	.066	1.246
Constant	-14.496	.385	1418.888	1	.000	.000
Model statistics						
Observed/predicted			Cox & Snell R^2		Negelkerke R^2	
84.4%			.416		.556	

Notes. Significance of odds ratios: * =p<.05, **<.01, ***<.001
n =5,987.

Results for 2007. Table 17 provides the predictions of a model comparing the odds ratio of admission between the ethnicity of transfer applicants from post-CAP 2007 to the Caucasian cohort in the initial CAP enrollment year of 2002. Overall, the 2007 applicants were as 1.47 times as likely as the applicants in the reference year to be admitted. Latino/a and African American applicants and the reference group showed no difference in admission. In this model, Asian Americans were 1.47 times as likely as Caucasians to gain admission. The models indicated that the odds ratios for CAP and Asian Americans increased between 2002 and 2007. This would suggest that Asians have greater opportunity for transfer admission.

The model had a moderate degree of predictive power, given 84% of the observations were correctly predicted by this model. The Negelkerke R^2 was 53.3%, similar to the previous model's results.

Table 17
Logistic Regression Model: Admission by Ethnicity (2007 to reference year)

Variable	B	S.E.	Wald	Df	Sig.	Exp(B)
Tr_GPA	4.489***	.122	1350.607	1	.000	89.023
Yr 2007	.387***	.073	28.554	1	.000	1.473
Latino/a	-.034	.091	.143	1	.706	.966
African American	-.293	.181	2.630	1	.105	.746
Asian American	.382**	.112	11.647	1	.001	1.465
Constant	-14.447	.403	1282.527	1	.000	.000
Model statistics						
Observed/predicted			Cox & Snell R^2		Negelkerke R^2	
84%			.392		.533	

Notes. Significance of odds ratios: * p<.05, **<.01, ***<.001
n=5,753

Sequential logistic regression models for transfer admission by gender and year.

Gender results. The odds ratios between females and males were not statistically different in any of the sequential models. The model that included all years predicted 84% of the observed cases correctly. The Negelkerke R^2 statistic indicated GPA, gender, and year predicted 54.7% of the model's variance. The models for the 1998 data and the 2007 data were similar in the explanatory strength of the model. The models seemed to show that females and males were admitted and denied fairly equally and thus, seemed to indicate no systematic bias by gender.

Summary

Statistically significant differences were found in among several of the variables used in the logistic regression models. Year was significant with the highest odds being recorded for 1998 in comparison to 2002 (see Appendix C). The community college transfer route had the highest odds of admission for 1998 and 2002. In 2007, CAP emerged as the best route to UT Austin among institutional paths to UT Austin. When examining the variables for ethnicity, Asian Americans had the strongest odds for admission in comparison to Caucasian, Latino/a, and African American.

Chapter Seven: Summary, Implications and Conclusions

We know little about the determinants of an institution's transfer enrollment rates, its longitudinal trends and admission policies, and how practices and programs affect who gets in and who is denied access (Cheslock, 2005). Nationally, over 42% of students in public 2-year institutions take this path to earn a 4-year degree (Peter & Cataldi, 2005). In Texas, community colleges educate over 600,000 people and represent the largest sector in higher education (Texas Association for Community Colleges, 2009). Approximately 75% of freshman and sophomore students in Texas attend public 2-year colleges. However, statewide data reveal transfer rates of community college students are extremely low (Texas Higher Education Coordinating Board, 2006). Among the 17,784 students awarded an academic associate degree in 2005, a mere one-fourth applied to a public 4-year public institution.[1] Of the 491,439 2-year students earning 30 or more semester credit hours, but not receiving a 2-year degree, only 4% or 20,031 students applied to a public 4-year university. This low rate has remained unchanged since 2000.

In reviewing the existing literature, there was no research that specifically examined if an association between transfer admission rates and the Texas automatic admission law existed. In fact, there is no known literature on the association between transfer admission rates and any other state's automatic admission law. Tienda & Niu, 2010) footnoted a cursory association between UT Austin's automatic admission law

[1] The quarter of students who earned an academic associate degree and applied to a four-year university was the equivalent to 4,651 students, see Texas Higher Education Coordinating Board, 2006).

and the institutional practice of reducing transfer and graduate student populations, but did not further investigate the far-reaching consequence of this action. The University of Texas at Austin was an important campus to investigate given the Top 10% Law has been in existence for over ten years, and the state's community college population is growing tremendously. Whether the change in transfer admission and the association with the Top 10% Law served as a coincidence or unintended consequence, it was vetted through a previous longitudinal study (see chapter four) on trend data and two exhaustive phases of qualitative and quantitative analyses of the study.

As the previous chapters suggest, the void in the literature served as the impetus for embarking on a mixed method study that addressed how policy, practice, and programs can affect transfer access and which transfer route provides the best opportunity for admission to UT Austin.

Summary of the Literature

In a comprehensive review of transfer student issues, several themes emerged that led to defining this study and its contribution to the literature. A prominent theme among the literature was the "cooling out effect" of community college which was characterized by diminished or deterred aspirations among low-income 2-year college students to pursue a baccalaureate degree (Astin, 1974; Bourdieu, 1977; Clark, 1960; Peng, Bailey & Ekland, 1977; Rendón, 1993, 1998; Sewell, 1971; Swift, 1976). Other scholarly themes included characteristics associated with transfer student persistence and graduation (Grubb, 1991; McClelland, 1990; Pak, Bensimon, Malcom et al., 2006; Pascarella & Terrenzini, 1991; Velez, 1985), transfer routes to a 4-year college

(Cheslock, 2003; Hearn, 1988; Hilmer, 1997), challenges associated with institutional transfer policy and practice (American Association of Community Colleges and American Association of State Colleges and Universities, 2004; Bracco & Callen, 2001; Cohen & Brawer, 1996; Eaton, 1988), college choice among transfer students (Somers et al., 2003) and most recently, the severely limited ability among admissible low-income transfer students to access elite universities (Carnevale & Rose, 2004; Dowd & Cheslock, 2006; Dowd et al., 2006; Melguizo & Dowd, 2006).

Summary of Methods and Theory

This mixed-method study employed a sequential explanatory design (Creswell et al., 2003) to address changes in transfer admission policy, practice, and programs; and to reveal the transfer route with the greatest opportunity for admission to the flagship institution among several institutional pathways. It incorporated both deductive and inductive logic to examine whether transfer admission to the flagship university is more characteristic of sponsored mobility or contest mobility (Abowitz, 2005; Turner, 1960). Contest mobility is based upon whether an individual possesses the determination and ability to rise above others in a competitive environment and attain higher social mobility. In contrast, sponsored mobility is defined as higher social status obtained not as a result of an individual's doing, but with deliberate attempts of others to promote the individual. Highly selective flagship institutions attempt to balance a public image of access to higher education given their dependence on state support with the strain of protecting a recruitment model where highly competitive freshman applicants are encouraged to apply and vie for selection. It can be a confusing process for prospective

students, particularly transfer students who typically do not receive much attention in the recruitment process.

The study followed a quantitative, qualitative, quantitative sequence of investigations best categorized as sequential explanatory research (p. 67, Figure 2). An exploratory study conducted by the researcher served as the first quantitative phase of the research. It provided admission trends among 2-year college and 4-year university students enrolled at UT Austin for combined fall, spring, and summer enrollment from 1997-2007. The exploratory study also included a bar chart plotting the growth of the Coordinated Admission Program (CAP) from 2001-2007. As explained earlier in the study, CAP was developed to accommodate admissible non-TTP students displaced by top ranked students guaranteed admission to UT Austin via the Top 10% Law. Together, the charts naturally evoked questions about the inverse relationship between the drop in public 2-year transfer admission and the simultaneous increase in public 4-year transfer admission, mainly arising from the growth in the number and proportion of the CAP students receiving guaranteed transfer admission.

The second phase of the study consisted an archival review of admission policies and practices from the 1990s–2007. Published copies of admission criteria from the General Information catalogues were collected and analyzed to construct a matrix of first-year student and transfer admissions policies, practices and significant events such periods of peak university enrollment. The General Information catalogues containing the admission criteria and application evaluation process were available through the Center for American History at UT Austin. Other documents used to construct the

matrix were university reports accessible via the institution's website. Lincoln and Guba (1985) state three important reasons to include an analysis of documents and records. First, these printed materials are usually free and readily available. Second, they are typically historically accurate and consistent in message. Third, "they are a rich source of information; contextually relevant and grounded in the contexts they represent" (Lincoln & Guba, 1985, p. 277). As is the case with the creation of an admissions policy matrix, the analysis of documents provided "records of activity" for a time period not observable by the researcher (Stake, 1995, p. 68).

Semi-structured interviews designed to illicit responses on the history and process of transfer admissions, on comparisons between the transfer and freshman population, on the impact of CAP, and future of transfer admission comprised the second portion of the qualitative analysis. Using oral cues and thematic analysis (Bailey, 2007), these interviews generated themes and the selection of quotations that documented the institutional views and values associated with community college transfer student access.

The third phase of the study consisted of quantitative methods that confirmed the initial quantitative findings of the exploratory study. It represented the most critical portion of the study and required that student-level data be purchased through an Open Records Request submitted to university leadership. After cleaning and coding the data, the master file of 8,765 de-identifiable, student-level transfer student records were used in a series of sequential binary logistic regressions. Sequential logistic regression was the choice of analysis for the study because the binary dependent variable representing

transfer admission would not be appropriate for a multiple regression model given it does not produce a linear relationship with the data, but an S-curve indicating the probability of one of two separate responses, in this case, the response is an admit or deny decision (Cabrera, 1994; Hosmer & Lemeshow, 1989; Osborne, 2006; Pampel, 2000). The model was designed to calculate the magnitude and significance of route and student background characteristics in affecting transfer admission decisions. The binary logistic regression models included three non-consecutive years of data: 1998, 2002, and 2007. Three non-consecutive years were chosen to reflect the earliest year of transfer data available (1998), the first year CAP transfer students were admitted to the university (2002), and the latest year (2007) of data available to the researcher. For all non-baseline models, the average GPA was held constant.

Summary of Findings

Research question 1: How did transfer admission criteria change from the mid-1990s to 2007? Bourdieu and Passeron (1977) and Kempner and Tierney (1996) suggested what changes in admission policy is less important than why it changes, particularly at selective institutions like The University of Texas at Austin. After reviewing the literature, it was determined that analyzing transfer admissions without a thorough analysis of freshmen admissions would not capture a complete history the somewhat symbiotic relationship between the two systems. As enrollment grew steadily at UT Austin after the passage of the Top 10% Law in 1997, pressure to find other pathways beyond fall admission were considered for eligible non-Top 10% applicants. In 2000, admissions peaked when the applicant pool increased from 18,930 in 1999 to

21,539 (+13.7%). That same year, the number of admits increased from 11,949 to 13,256 (+10.9%) and PA [Provisional Admission] offers increased to more than 4,000 students of which approximately 1,500 actually enrolled; 905 continued into the fall (Office of Admissions, 2010, p. 1).

Beginning in 2001, two options or tiers for admission were introduced to cascade students into alternative non-fall admission routes. Students in the second tier, considered most selective of the non-TTP applicant cohort, were offered fall semester admission while the third tier of students who were offered admission to the Provisional Admission Program (PAP). PAP was established in 1962 and originally designed to provide minimally eligible freshman with an opportunity for conditional admission to the university if they achieved a GPA of 2.25 and enrolled in 12 semester credit hours of prescribed coursework (Martinez, 1998). From 1999 to 2000, University administrators struggled to better manage its burgeoning undergraduate population. It was the later part of this period that the vision for a new conditional transfer program for high achieving students was vetted to university leadership and ultimately, the UT Board of Regents (Walker, Washington & Levergne, 2000). After the emergence of CAP, the student demands at the freshman level soon shifted to the transfer student dramatically changing its size and composition. By 2003, over 6,200 students were offered CAP contracts in contrast to the initial 2,102 students offered contracts in 2001. Differences in the number of CAP students guaranteed transfer admission grew exponentially from 182 to 2,012. Three years after the first cohort of CAP transfer students enrolled at UT Austin, transfer admission evaluation changed for the first time since its inception. The rolling

admissions process was shifted to a more competitive batch review where applications were collected by a specified deadline and evaluated as a group. The requirement of an essay and statement of purpose was also introduced in 2005. The final and most telling signal of the growing encroachment of CAP students was the university's decision to strengthen the program's requirements for guaranteed admission for the fall transfer cohort of 2005 and an institutional commitment to the program should CAP students exceed 60% of the total entering transfer population. Analyzing admission documents provided a rich, descriptive history of freshman and transfer admission that cannot be construed as causal evidence of a negative association between the overwhelming demand for freshman seats among qualified top 10% students and non-top 10% students. Institutional documentation shows that CAP emerged as a direct result of the Top 10% Law and as a unique attempt to manage first-year enrollment and simultaneously protect access to the flagship institution for specific admissible freshman applicants.

To further address research question 1, purposeful sampling was used to select individuals who could provide multiple perspectives on admissions from varying vantage points within the university. In 2008 and 2009, semi-structured interviews ranging from 1.5 hours to 3.0 hours were conducted. The participants provided personal reflections and opinions on admission policy and institutional values associated with transfer students. Three revealing themes emerged from the participants: (a) Once Upon a Time: The Existence of a Transfer Recruitment Program, (b) It Doesn't Compare: Lack of Transfer Scholarships and Grants, and (c) They've Taken a Back Seat: Reflections on the Value of Community College Students. To protect the identification

of the interviewees, the following fictitious names were used: Leighton McKinney, Marisa McDaniels, Robert Rosenthal, Matthew Garcia, and Terry Yoshura. The transcripts of each person's interview were typed, member checked by the participant, and analyzed by coding and arranging thematic blocks of information in a logical sequence.

Once upon a time: The existence of a transfer recruitment program.

Participants explained that the focus on transfer recruitment at The University of Texas at Austin changed dramatically during the last 20 years. In 1981, a comprehensive community college recruitment program was created and coordinated by the university's admissions office. The program targeted two-year public colleges in Texas. Yoshura recalled,

> . . . once upon a time we had a [transfer recruitment] program in place. As a matter of fact, we . . . identified ten community colleges where we spent a lot of time and energy . . . [we went] to those schools, sitting down in the cafeteria or the student activity center and trying to encourage those students to attend UT.

Rosenthal explains,

> So, that was once upon a time . . . now . . . especially the last ten, eleven years, the emphasis has changed a little where we don't spend nearly the time in these schools, any of them, as we did then and a lot of it has been a direct result of all the time and energy we spend on freshmen . . . that I know has happened because I have been a part of it, I participated in it, when it was at its high point.

The participants' descriptions and recollections of the transfer recruitment program served as qualitative evidence of the changing emphasis placed on yielding more community college transfer students. According to the interview participants, the

scaling back of transfer recruitment efforts and financial aid opportunities and the implementation of the automatic admission law occurred simultaneously.

Today, university recruitment of transfer students is primarily through the Coordinated Admission Program. The narrow focus of the university on non-top 10% students opting to participate in CAP and vie for a guaranteed transfer slot dependent on whether they successfully complete the terms of the CAP contract has resulted in limited recruitment and admission to traditional transfer students from non-CAP feeder routes. As a result, community college recruitment, articulation agreements and targeted mailings are not emphasized as in previous years. The general assumption is "as the number of CAP [students] grow, the traditional transfer [student population] will decrease equitably," explains Garcia.

It Doesn't Compare: Lack of Transfer Scholarships and Grants. The second theme emerged when the interviews moved to questions about student financial aid, each respondent had difficulty identifying transfer student grants and scholarships, perhaps because after the *Hopwood* ruling, there was no one transfer student award that served as the equivalent to any first-year student scholarship or grant at the university. Prior to *Hopwood*, the minority transfer opportunity grant (MTOG) and the Minority Transfer Achievement Award (MTAA) were common awards. According to McDaniels, "The awards were $2,000 per year for two years, with an option of a third year for the student who met specific academic requirements."

When asked if the amount of scholarships and grants available to transfer students compare to those offered to first-time freshmen, Yoshura quipped, "It doesn't

compare. Unlike ten years ago, 15 years ago, when we really had some very interesting transfer [student] scholarships out there . . . " now transfer students compete with native university students for the continuing student scholarship.

"After *Hopwood*, all that changed . . . "the Minority Transfer Opportunity Grants (MTOGS) went away and nothing replaced them to my knowledge" (Rosenthal, 2009). "When *Hopwood* came, both the MTAA and MTOG awards went away as well as [the] direct mail program" shares McDaniels. Prior to 1998, the university purchased student information from the College Board to recruit for their transfer student class. The students of interest were ethnic minority students with an outstanding academic record, explains McDaniels.

They've taken a back seat: Reflections on the value of community college transfer students. The third theme that emerged from the interviews was the special qualities and value of transfer students. Participants explained that transfer students are so diverse that they are hard to identify in a single student profile as some are older, married, and working, others are in their late-twenties and independent, and still others are younger and dependent upon their parents. They are any student and every student. Garcia stated, "We have to come to terms with what is important to us." Over time, there seemed to be a reduced interest in community college transfer recruitment and admission by the institution as was evident in Rosenthal's acknowledgement that,

> . . . the decision was to embrace the freshmen at the expense of the transfer student. It seems like we shifted the problem of top 10% to the transfer arena because we haven't grown the transfer admit spots. So, when you stop and think about the big picture, lots of things have caused changes to take place for the

> transfer, most notably, in the recent years has been the CAP program just too many [students].

When asked if the university values transfer students, the responses seemed to evoke a personal response as well as an institutional response. Rosenthal reflected,

> No . . . *I* think *we* do. *I* think [transfer students] have taken a second . . . they've taken a backseat to the freshman pressures we face at the university. *I* think *we* have to build in some capacity for them if *we* are going to take a different approach to transfers. But, *I* think the *university* has had to make a decision to grow one group or to allow one group to continue to grow, i.e., freshmen at the expense of the transfer student.

In spite of the view that transfer students are valuable and necessary to diversify the student body, there is intense competition among students vying for non-CAP transfer slots. "*We* have students sitting where you're sitting and cry because they didn't take the CAP offer, and find that they didn't get in as a traditional transfer student in the competition for that pool," shared Garcia. *UT Austin* needs to decide if *we* grow or not."

The participants interviewed clearly understood the reason behind having less transfer access to the flagship university, but struggled to explain what could be done to protect traditional transfer student access. Curiously, there were two distinct responses that emerged from each interview: the institution's response and the individual's response. In every interview, participants seemed to evoke some anxiety about the plight of transfer students. Moreover, verbal and physical cues demonstrated that university officials struggled in their roles to balance the constraints of increased student demand and transfer student access to the institution. The unarticulated, subliminal response to this policy dilemma seemed to be, "we wish we could do more, but our hands are tied" [quotes added for author's emphasis].

Research Question 2: Is there a difference in admission between a community college transfer applicant and other transfer applicants being admitted? This phase of the study produced the quantitative results of the study. The calculation of a beta weight (β) from the logistic regression output was used to determine whether to accept or reject the null hypothesis that $\beta = 0$, meaning that there were no differences in transfer admission between community college transfer applicants and other transfer applicants coming from four-year public universities, four-year private universities and the Coordinated Admission Program (CAP). Holding transfer GPA constant, this model found all transfer routes were statistically significant at $p<.05$ for the three years of data combined. The logistic regression model indicated the CAP students had 2.4 times more opportunities to be admitted than students who last attended a public 2-year college. Transfer applicants from both public and private 4-year institutions had less opportunity for admission than community college applicants. The inverse calculation for the odds ratios indicated that community college applicants were 1.16 times as likely to be admitted as public 4-year university applicants and 1.25 times as likely to be admitted as private university applicants to UT Austin. The model predicted CAP students were most likely to be admitted to the university followed by community colleges students and public university students. Private university applicants had the least opportunity to be admitted.

The Negelkerke R^2 shows that 56% of the variation in admission was explained by this model. Under the observed/predicted column, there is evidence that the model predicts 83.7% of the cases correctly indicating a moderate high level of reliability. This

model contains 1998, 2002, and 2007 student records and all transfer routes, however 1998 records did not contain CAP applicants because the program did not exist at that time. Next, student level records are teased out by year to examine within-year differences in transfer admission rates by institutional feeder route.

The general equation used to construct each model used in the study is below (Equation 1).

$$p = \frac{e^{(\beta_o + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_{5\ldots} \beta_n x_n)}}{1 + e^{(\beta_o + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_{5\ldots} \beta_n x_n)}} \qquad \text{(Equation 1)}$$

A series of three sequential binary logistic regression models were used to address research question 2. In each case, odds ratios, which are a measure of effect size, are analyzed to identify statistically significant associations between admission and an explanatory binary variable (Osborne, 2006; Pampel, 2000). To create the series of sequential logistic regression models, dummy variables for 1998 and 2007 were created from the categorical variable, year, where 1 represents the year of interest and 0 represents the reference year (e.g., 2002). The sequence of logistic regressions models run were: (a) all years, (b) 1998 to the reference year, and (c) 2007 to the reference year. The years 1998 and 2007 signify two distinct and important periods. The year 1998 represents a period of time preceding the implementation of the Coordination Admission Program (CAP) and year 2007 denotes post- implementation of CAP.

A master file of 8,762 cleaned and coded student records was used for the quantitative portion of the study. The variables used in the logistic regression models did

not have missing variables and no weighting of data was necessary. Before the models are introduced and the findings are explained, descriptive statistics on the three datasets are provided. Models used to address this question included three variables on transfer route: public 4-year university, private 4-year university and CAP. The reference variable was community colleges (i.e., public 2-year colleges). Transfer GPA was the one continuous variable serving as the covariate and controlling factor in all the models. The relationships between the explanatory variables and admission decision (a dichotomous, dependent variable) were expressed in terms of beta weights (β) for each explanatory variable. Holding transfer GPA at its average, this model found all transfer routes were statistically significant at $p < .05$ for the three years of data combined. The logistic model indicated the CAP students had 2.4 times more opportunities to be admitted than students who last attended a public 2-year college. Transfer applicants from both public and private 4-year institutions had less opportunity for admission than community college applicants. The inverse calculation for the odds ratios indicated that community college applicants were 1.16 times as likely to be admitted as public 4-year university applicants and 1.25 times as likely to be admitted as private university applicants to UT Austin. The model predicted CAP students were most likely to be admitted to the university followed by community college students and public university students. Private university applicants had the least opportunity to be admitted.

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model contains 1998, 2002, and 2007 student records and all transfer routes, however 1998 records did not contain CAP applicants because the program did not exist at that time. Next, student level records are teased out by year to examine within-year differences in transfer admission rates by institutional feeder route.

The second model predicted that the odds ratio of transfer admission in 1998 was statistically significant in comparison to the reference group, 2002 applicants. When examining differences between years and holding GPA at its average, the model calculated 1998 transfer applicants were 2.33 times as likely to be admitted as applicants in 2002. Both 4-year public and private university applicants had a lower opportunity for admission than 2-year public college students ($p<.05$). Using the reverse odds calculation, community college applicants were 1.37 times as likely as 4-year public university applicants to be admitted and were 1.46 times as likely as 4-year private university applicants to gain admission.

Among the three available routes for transfer admission, public 2-year college applicants had the highest opportunity of admission. CAP applicants were not included in this model, as the program did not exist in 1998. However, the inability to control for the presence of CAP in the reference dataset (2002) may explain the high odds ratio associated with transfer GPA not predicted in other similar models.

The model predicted 82.6% of the admission outcomes accurately. The Negelkerke R^2 statistic approached 53%, indicative of a seemingly strong association between admission and applicant feeder patterns indicating that the model explained a moderate level of admission decisions. Given these statistics, this model was fairly

reliable in its ability to predict which route seemed to provide the most opportunity for admission.

In the last model, which examined differences between 2007 and the reference year (2002), CAP had the strongest association to the dependent binary variable, transfer admission. Other routes included did not factor significantly into the admission decision. Both year and the CAP route had a statistically significant effect on transfer admission. Holding GPA at its average, the fall 2007 applicants were 1.423 times as likely as fall 2002 applicants to gain admission. CAP applicants had 3.25 times greater opportunity for admission than community college applicants with all else being equal. In comparison to public 2-year applicants, the public and private 4-year transfer routes did not predict significantly different admission rates.

The model was highly accurate and classified 83.9% of the admission outcomes correctly, which was similar to the other models calculating odds ratios for transfer routes. The Nagelkerke R^2 statistic explained 55.2% of the proportion of variance. This result may be due to the university increasing the GPA requirement for guaranteed admission in 2005 for CAP students.

Research Question 3: What specific factors affected transfer admission? To address this last question, student ethnicity and gender were examined to determine if there were differences in transfer admission rates. Again, the sequence of models introduced was all years combined, 1998, and 2007. The first model included dummy variables for ethnicity. The specific ethnic groups added were: Latino/a, African American, and Asian American. In the last series of models, there was an examination of

gender. The reference group for ethnicity was Caucasian and the reference group for gender was male.

The logistic model using all years of data combined found ethnicity was positively associated with transfer admission for one group. Asian Americans were 1.27 times as likely as Caucasians to be admitted ($p<.05$) level. Applicants identifying as Latino/a or African American had no statistically significant difference in their odds of admission in comparison to Caucasian applicants. The model correctly predicted 83.8% of the admission outcomes resulting in a fairly accurate model. The Nagelkerke R^2 statistic explained 54.9% of the variance associated with the model. Overall, the model for ethnicity predicted little in terms of admission decisions, thus rendering student background characteristics weak in predictive power for admissions. That said, admission among the Asian American transfer population seemed to be in line with studies that have documented their higher proportion of eligibility for college admission (Au & Bunzel, 1987).

In the binary logistic regression model comparing 1998 to the reference year (2002), ethnicity and year were significantly associated with transfer admission to UT Austin. Findings show the year 1998 was positive and significant. Applicants in 1998 were 2.6 times as likely as transfer applicants for 2002 to gain admission, thus indicating a more lax admission evaluation or the capacity to accept a larger number of students than in 2002. The variable, Asian American, approached significance with a $p = .066$. At this borderline significance level, Asians were 1.25 times as likely as Caucasian applicants in 2002 to be admitted. Latinos and African Americans did not differ from the

reference group in their respective admission rates. The model predicted 84.4% of the cases correctly and the Negelkerke R^2 was .556, indicative of the model's moderately strong explanatory power.

When examining 2007 to the reference year, the model compared the odds ratio of admission between ethnicity of transfer applicants from 2007 to the Caucasian cohort in the initial CAP enrollment year of 2002. Overall, the 2007 applicants were 1.47 times as likely as the applicants in the reference year to be admitted. Latino/a and African American applicants and the reference group showed no difference in admission. In this model, Asian Americans were 1.47 times as likely as the ethnic reference to gain admission. The models indicated that the odds ratios for CAP and Asian Americans increased between 2002 and 2007 and, thus greater opportunity for transfer admission was realized. There was a moderate degree of predictive power, given 84% of the observations were correctly predicted by this model. The Negelkerke $R^2$was 53.3%, similar to the previous model's results.

When gender was examined, the odds ratios between females and males were not statistically different in any of the sequential models. The model that included all years predicted 84% of the observed cases correctly. The Negelkerke R^2 statistic indicated GPA, gender, and year predicted 54.7% of the model's variance. The models for the 1998 data and the 2007 data were similar in the explanatory strength of the model. The models seemed to show that females and males were admitted and denied fairly equally and thus, seemed to indicate no systematic bias by gender.

Implications to Policy

Policy is defined by "whatever government chooses to do or not do" (Dye, 1995, p. 3). Policy analysis is an examination of the output from the "black box" that results in which groups gain status or wealth, what reasoning occurs in the decision making process, and the residual effect of the action. Higher education policy is powerful. As this study portends, higher education policy can provide opportunities for access to social and economic capital that come about through the attainment of a prestigious academic degree from a selective four-year university. UT Austin's selection process is often scrutinized if certain powerful groups feel slighted. Each generation of Americans confronts issues associated with achieving adequate preparation for a changing global market. Today, access to quality higher education stills serves as a fascinating phenomenon to be studied in America and elsewhere. Turner (1960) found the American norm, contest mobility and the British norm, sponsored mobility, generated critical differences "in the value placed upon education, the content of education . . . [and] the kind of financial subsidy available to university students" (p. 855). He also suggested contest and sponsored mobility differed in their levels of control over who vies and is awarded with opportunities (i.e., transfer admission) and resources (i.e., merit-based scholarship) and that sponsored mobility facilitates the status quo of social classes and economically stratified cliques rather than expanding them and opening them up to groups aspiring for upward mobility.

Does society care if an admission process is somewhat biased, particularly at selective institutions where there exists a high demand for a small number of seats?

Fishkin (1982) stated that most people are "indifferent to conflicting moral claims until occasions occur where these conflicts intrude into our lives" (pp. 20-21). Most people in society have been indoctrinated to believe that the American ideal of contest mobility exists at some level and in theory, American public education does what it can to promote a fair and unbiased system.

This study investigated access among different groups of transfer students to UT Austin. However, the crux of the study was determining through qualitative and quantitative evidence whether a relatively new transfer admission program for selected freshman applicants was representative of sponsored mobility or a fairer version of selection, contest mobility. Under the Coordinated Admission Program (CAP), high ability freshman applicants not selected for fall admission were offered a conditional guarantee for transfer admission if they met the prescribed requirements of the Coordinated Admission Program contract (see chapter five, p. 79).

As the qualitative and quantitative evidence from this study indicated, CAP was created because of serious capacity concerns associated with the automatic admission law in Texas and CAP did reduce transfer opportunities for community college students. Given this study's findings and the program's tremendous growth, policies to protect and maintain a community college transfer pipeline are imperative. Modifying CAP so that enrollment from the program is limited to substantially less than half the fall transfer population is necessary. Currently, there is constriction in public 2-year college students gaining admission, which if changed, can increase the likelihood of low-income and first generation students gaining entrance given their large presence in community colleges.

The creation of a Community College Recruitment and Scholarship Program for two-year transfer students from low-feeder areas that includes a guarantee of admission and a two-year scholarship to the university is another recommendation that could serve to bring a larger market share of underrepresented populations to UT Austin. With the exponential growth of CAP, financial incentives from other UT System institutions where CAP students take their first year of coursework should be supported by the System to create more competition in the higher education market. Finally, the Office of Admissions must seek out and value community college applicants in its holistic evaluation process. With the largest percentage of underrepresented minority students in community colleges and with the vast majority of first generation students beginning their academic careers in local 2-year colleges, promoting these groups will expand the pool of potential four-year college graduates.

Implications to Practice

Dowd and Cheslock (2006) wrote to understand the transfer access problem requires an investigation of the factors that "promote and inhibit transfer enrollment at [selective] . . . institutions (pp. 4-5). Retention rates, demand for certain student characteristics, and freshman demand for seats are typically the drivers for growth or decline of an institution's transfer population. However, a growing number of scholars argue that maximizing an institution's prestige is also driving the student selection process (Winston, 1999). The significance of the transfer route is its ability to provide increased opportunities for social, cultural, and economic mobility (Bourdieu, 1977). In the age of positional rankings being king, words like "excellence" and "prestige" are

used as false fronts for some institutions with an ambitious desire to gain the title of the "best" university." Top-tiered universities and those universities aspiring to be highly-ranked can get caught up in an obsessive competition of enrolling as many prestige generating students as possible. These universities typically have core values that include excellence (characterized by academically competitive students, highly respected faculty, and highly acclaimed degree programs) and social justice (characterized, in part, by offering admission for admissible low-income and first generation students). Balancing the pursuit of these goals has become difficult at some universities, particularly when the return for achieving them is vastly different. Winston (1999) suggests the exhaustive cycle of capturing and retaining more prestige-generating inputs creates "players who are trapped in a sort of upward spiral, an arms race …[where], in the extreme, involves…" creating access for the students assured to bring capital rich resources to an already capital rich institution.

In contrast, public 4-year universities defined as less selective do often recruit transfer students for admission and have 2+2 programs and articulation agreements to make the process more transparent. The challenge at these state universities is their attrition and graduation rates are typically less attractive.

As the findings of this study reveal, there are specific changes that can occur to better promote community college access to UT Austin. In the spirit of actively recruiting public 2-year students, the Office of Admissions should consider a dedicated transfer admission counselor at each of the UT Satellite Admission Centers located in Houston, Dallas, San Antonio, McAllen, and Austin. The commitment of human

resources would provide a greater university presence in the local colleges across the state and serve as a community resource for the many individuals that may be temporarily place bound or lacking Internet access to learn more about transfer policies.

Bowen and Bok (1998) contend, "Who is admitted to selective schools depends, of course, on who applies" (p. 18). As this study shows, non-Top 10% freshman applicants are increasingly participating in the Coordinated Admission Program. However, there are highly qualified students with similar backgrounds beginning their transfer journey at a public 2-year college that are competing with these pre-selected freshmen applicants for approximately 2200-2600 seats.

To provide a competitive edge for similarly situated community college students, the recommendation is for UT Austin to add value as is similarly done for other defined non-academic student characteristics when reviewing applications of admissible students through the holistic admission system. Under this scenario, the holistic admission process could potentially provide added opportunity for admission to the vast majority of low-income and ethnic minority students who populate the state's community colleges. Many non-traditional transfer students possess a richness of diversity as seen in their professional and military backgrounds and mature life experiences that could enrich the student body beyond what is possible from most prospective high school students, but currently there is no systematic way of valuing this diversity.

A final implication to policy would be the creation of a financial incentive for a CAP student to enroll and remain at another UT undergraduate institution other than UT Austin. Under this scenario, CAP students would enroll and persist at one UT System

institution, creating a more practical and efficient higher education system. This practice would allow the UT System institutions to not have their freshman retention rates negatively affected by the loss of CAP students when they transfer from their first UT component institution to UT Austin.

Implications for Research

This study represents the first attempt to identify factors affecting community college transfer access to a selective flagship university where automatic admission is taken into consideration. It is by all accounts limited in scope and applicability, but it does provide a lesson of what can occur if selective institutions begin to use transfer admission routes for non-traditional transfer groups. That said, this research provides a fresh examination of how competitive and challenging transfer admission has become at the largest flagship university in Texas. Additional research that would compliment this study would be the inclusion of data from other states where automatic admission laws are in effect to better understand if the problem of reduced access is unique to UT Austin or if it is a silent, understudied problem affecting other selective flagship institutions.

Further, the inclusion of family income and parent education level are critical explanatory factors to include in future studies. The current dataset did not allow for this analysis given this information was rarely recorded by the applicants. Linking the current dataset with financial information from the Free Application for Federal Student Aid (FAFSA) might allow for a more insightful study. Addressing if there are initiatives that offer the option of transfer admission to high talent freshman applicants at selective universities is an intriguing research option. Although this study did not delve deeply

into the existence of transfer scholarships and university support programs targeting transfer students, research shows how these examples of support are important to improve retention and graduation rates of this non-native University population.

Moreover, a national comparison by the federal government of the type and amount of transfer grants and scholarships available at other flagship universities would be extremely beneficial to better understand if limited transfer student aid is central to UT Austin or a larger issue.

Implications for Statewide Practice and Policy

For the state to be responsive to improving the transfer rates in Texas, they must take proactive steps and serve as a leader and champion of transfer students who arguably hold the key to having the state reach its goal of bringing 630,000 more students to higher education. Three implications cited for statewide practice and policy are suggested.

First, implement an annual Texas Transfer Week where public and private four-year institutions are encouraged to recruit students from public 2-year colleges. Second, develop and maintain a statewide transfer student database for public and private 4-year universities interested in recruiting students from public 2-year colleges. Third, promote the development of a transfer seminar at the public 2-year college that provides freshmen with the best practices and information for successfully transferring to the institution of their choice. The Texas Higher Education Coordinating Board is poised to implement the three suggestions, which would emphasize to both 4-year and 2-year

institutions that the state is serious about improving transfer rates for the thousands of prospective students beginning in community colleges.

Conclusions

In Texas, 75% of all lower division students and 78% of all lower division minority students begin their postsecondary education at a public two-year college (Texas Association of Community Colleges, 2009). Scholars who study transfer student characteristics find many come from low-income, ethnic minority, and first-generation backgrounds (Dowd & Melguizo, 2007; Hilmer, 1997). The University of Texas at Austin is a selective, well-respected institution that has served and continues to serve as a catalyst for social and cultural mobility for many students of all ethnic and geographic backgrounds, particularly with the implementation of the Top 10% Law (Saenz, 2007). The paradox of the Top 10% Law, as discussed in this study, is the alternative transfer program that emerged after the popularity of the Top 10% Law overwhelmed the university's capacity to accept all admissible university students. The Coordinated Admission Program (CAP) initiative targets high ability freshman applicants for conditional admission. The university has repeatedly attempted to review and strengthen CAP standards so that it does not overrun the limited access provided to the over 600,000 students enrolled in state community college.

However the study's quantitative and qualitative findings suggest that the presence of a pre-selection process for CAP makes transfer admission uncomfortably characteristic of Turner's (1960) definition of sponsored mobility. CAP appears to offer a second route for elite social groups predestined to maintain their high social status at a

time when the university is publicly lamenting its inability to accommodate more students. Although the study does not include information on student income levels for those students participating in CAP in comparison to traditional transfer students, it does reveal that CAP students have the ability to pay to attend another UT institution and then transfer again to UT Austin the following year. This route from one UT institution to another one is no small undertaking for low-income and first-generation students who often choose to attend their local college to save these same expenses.

Interestingly, the university's argument to modify the Top 10% Law is that high school class rank serves as the sole determinant for guaranteed freshman admission. In comparison, CAP affiliation is arguably constructed in the same manner. Students are offered conditional guaranteed transfer admission if they apply to UT Austin and are admissible for freshman admission. Under this admission construct, only eligible freshmen are given the opportunity to participate in a pre-transfer program equipped with knowledgeable college advising staff at the accepting UT institutions. These professionals are trained to support and facilitate CAP students transferring to UT Austin which may put these students at an advantage given the many studies which confirm that community colleges do not help to facilitate the transfer process (American Association of Community Colleges and American Association of State Colleges and Universities, 2004; Astin, 1974; Bourdieu, 1977; Clark, 1960; Peng, Bailey & Ekland, 1977; Rendon, 1993, 1998; Sewell, 1971; Swift, 1976).

Based on the study's findings, the university's transfer class is being overridden with highly selective freshman applicants who are preselected for a conditional transfer

guarantee program. CAP is a byproduct of the Top 10% Law, and was created because of the university's inability to accommodate the vast numbers of Top 10% students and admissible non-Top 10% students who apply for freshman admission. The university states that the premise of CAP is to not permanently close the door on "any Texas resident" (Lavergne, Washington, & Walker, 2003, p. 1). However, as this study shows, it may be closing the door on transfer students in the state who, unlike freshmen, have a very narrow window of opportunity to apply and enroll in a college of their choice. The permanence of closing the door on this transfer population is much more acute than the freshman group who may and often do transfer from one institution to another during their undergraduate lifetime.

As some 4-year universities have grown more selective and self-serving, leaders of these colleges have become more interested in touting prestige-laden characteristics of their freshman class and improvement in their retention and graduation rates. Further, the practice of not counting transfer students in a separate set of retention rates for this population makes it difficult to track the university's record of success or to identify its need for improvement.

Quality of life (e.g., happiness, financial security, and health) is often indicative of the education, income, and skills accumulated over time. Postsecondary education plays a distinct role in enhancing social and economic status. Who gets in, and to what college, matters a great deal. Moreover, the state benefits by the reduced cost of educating students at a community college for that portion of their undergraduate experience. A policy agenda that leverages the benefits of the Top 10% Law while

valuing and protecting community college student access seems prudent given the high demand by many postsecondary students to attend the highest quality institution that will accept them.

APPENDIX A

Expert Interview Questions

Name:_____
Title:_____
Date/Location:_____

Background

1. What are your primary duties of your position?

2. How long have you been in this position?

History and Process of Transfer Admissions

3. How have transfer admission practices changed from the 1990s until the present?

4. How has transfer access changed to the flagship university in comparison to other public universities?

5. What policies seem to be important to maintain transfer access to elite institutions?

6. What practices seem to be important to maintain transfer access to elite institutions?

7. What programs have been successful in maintaining transfer access to elite institutions?

8. What are the main admission criteria for transfer admission?

9. How does the amount of scholarships and grants available to transfer students compare to those offered to first-time freshmen?

10. What have been the major causes for change in transfer admissions requirements and policies?

Comparisons between Transfer Population & Freshman Population

11. Have there been studies conducted on transfer access and enrollment at elite public universities? What were the findings?

12. Similarly, do you know how the ethnic and geographic make-up of transfer admits differs from first-time freshman admits? Do you have charts documenting these differences or similarities?

13. What are the barriers to transfer admission? How are these barriers different from first-time freshman admission to flagship universities?

14. Do you think transfer students are valued at elite public institutions? Why or why not? How does this value or lack of value compare to the value placed on freshman students?

15. What is the largest ethnic group applying for transfer admission?

16. If there are geographic areas, community colleges or 4-year institutions that tend to contain a large percentage of transfer admits to the flagship university, what areas or institutions comprise this list?

17. Are there inherent inequities in transfer student's profiles which are considered in the transfer admission process? What non-academic factors are considered (i.e. race, income, first-in-family)?

18. How are these factors taken into consideration?

19. Are transfer students usually admitted into the major of their choice? Are their majors that do not accept transfer students?

20. Are there impacted majors? Are these the same as those impacted programs for freshman applicants?

21. What is the yield rate of admitted transfer students?

Future of Transfer Admission Program

22. What doe the future hold for transfer admissions at the public flagship university?

23. Anything you'd like to share on transfer admission to the flagship universities in (Texas or California)?

APPENDIX B

Average Transfer GPA for Admitted Transfer Student by Year, Ethnicity and Gender

Year	Both Genders	Male*	Female	Caucasian*	Latino/a	African American	Asian-American
All years combined	3.23 (8762)	3.19 (4340)	3.26 (4422)	3.24 (5635)	3.15 (1765)	3.09 (324)	3.32 (1038)
1998	3.07 (3009)	3.01 (1506)	3.12 (1503)	3.09 (2106)	2.99 (549)	2.90 (88)	3.12 (266)
2002 *	3.24 (2978)	3.21 (1419)	3.27 (1559)	3.28 (1899)	3.15 (638)	3.09 (104)	3.30 (337)
2007	3.39 (2775)	3.36 (1415)	3.41 (1360)	3.41 (1630)	3.31 (578)	3.22 (132)	3.46 (435)

Note: Total population for each group is in parentheses.
* = Reference category

APPENDIX C

Results of Baseline Model

Logistic Regression Model: GPA (All Years Combined)

Variable	B	S.E.	Wald	df	Sig.	Exp(B)
Tr_GPA	4.404	.094	2211.913	1	.000	81.768
Constant	-13.700	.300	2091.731	1	.000	.000
Model Statistics						
Observed/Predicted			Cox & Snell R^2		Negelkerke R^2	
83.9%			.406		.547	

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Logistic Regression Model: GPA (1998 to Reference Year)

Variable	B	S.E.	Wald	df	Sig.	Exp(B)
Tr_GPA	4.531	.116	1517.280	1	.000	92.859
Yr 1998	.970	.075	167.349	1	.000	2.638
Constant						
Model Statistics						
Observed/Predicted			Cox & Snell R^2		Negelkerke R^2	
84.4%			.415		.554	

Logistic Regression Model: GPA (2007 to Reference Year)

Variable	B	S.E.	Wald	df	Sig.	Exp(B)
Tr_GPA	4.508	.122	1371.511	1	.000	90.701
Yr 2007	.394	.072	29.870	1	.000	1.483
Constant	-14.481	.399	1314.804	1	.000	.000
Model Statistics						
Observed/Predicted			Cox & Snell R^2		Negelkerke R^2	
83.7%			.390		.530	

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This dissertation was typed by the author.